ARMY COMMUNICATOR

Voice of the Signal Regiment

One Army SCHOOL SYSTEM

PLUS:

- NSA Going Commercial
- Mission Training Complex Offers Innovative Tools
- Distinguished Members Recognized

Report Documentation Page

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Major General
PATTERSON'S
Priorities and Focus

★★ **SHARP**

Health of our Forces

★★ **Cyber**

Modernizing for Network 2020 & Beyond

★★ **Vision Statement**

Strategic Plan

★★ **University System**

Foundry Initiative

★★ **Profession of Arms**

Standards and Discipline of our Force

ARMY COMMUNICATOR

Voice of the Signal Regiment

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Cover: *This edition of the Army Communicator offers a glimpse of the on-going efforts to deliver consistent seamless training opportunities to all Signal servicemembers regardless of component or home base.*

Cover by Billy Cheney

Continued Regiment success depends on leader development

Signaleers,

With the war in Iraq over and the war in Afghanistan ending, it is time to think about expanding leadership development and education, without relying solely on operational experience.

While waging two wars, many Soldiers sacrificed going to school and broadening experiences because there wasn't enough time.

Now we have the time. And despite budget cutbacks, the Army is making sure we have the money to invest in the education and training of our formations.

Leadership training is especially important in the Signal Regiment

where development of new technologies outpaces our ability to train. For example: the Network Integration Exercise was developed to quickly acquire advanced systems, so our Soldiers were equipped with the best, most advanced technology to fight two wars.

Now we must ensure our future leaders are schooled in how to lead technically, ethically, mentally and physically. To get ahead of our adversaries, we have got to think harder and faster.

Our road map is the Army Leader Development Strategy released in June 2013. I urge every leader to read it.

Key points include:

• While the Army's ability to develop leaders is already a competitive advantage for our Nation, we are confident the steps we are taking will further enhance leader skills while also improving the management of our talent and fortifying ethical behavior. Leadership underpins everything the Army does, which is why we will continue to invest in our people, even during times of austerity.

• The Army is dependent upon itself to develop leaders.

Unlike large organizations in the private sector, the uniformed Army does not routinely recruit, select, and assign mid-grade and senior level leaders from outside its ranks. The process of developing a senior uniformed leader begins 20-plus years prior to the organization's need for the individual.

• Army senior leaders set conditions for the Army to develop leaders. Simultaneously, leaders at all levels create conditions in their organizations that maximize the development of subordinate leaders by teaching them, training them, and providing the supporting experiences they need to grow as leaders.

To support this road map, I urge every senior leader to think about how you are growing as a leader and how you grow others. If your plan is to keep with the op tempo that sustained us through two wars, while neglecting your technical skills and broadening opportunities, that's the wrong answer. Continuous development of subordinate leaders and encouraging intellectual curiosity and creativity are keys to the long-term health of the Army. Consider approving subordinate Soldiers' requests to attend certificate training, bachelor's and master's degree programs and opportunities with industry. The Army will be better off and our educated, well-trained leaders will be fit to answer when our nation calls.

For the Country!

Pro Patria Vigilans!

Join the Discussion
https://signallink.army.mil

Training for future readiness needs

Signaleers,

As I write this note I am closing out a powerful week that included our semi-annual face-to-face meeting of the Senior Warrant Officer Council and the Army Training and Leader Development Conference. At the ATLDC were GEN Raymond Odierno, chief of staff of the Army, GEN John Campbell, vice chief of staff of the Army (who also attended the 95th anniversary of the Army warrant officer ceremony earlier in the week), GEN Robert Cone, commanding general U.S. Army Training and Doctrine Command, GEN Dennis Via, commanding general U.S. Army Materiel Command, LTG Susan Lawrence, U.S. Army chief information officer/G-6, LTG David Perkins, commanding general U.S. Army Combined Arms Center, LTG Mary Legere, U.S. Army deputy chief of staff/G2 and many other general officers.

As the main focus of this edition of the *Army Communicato*r is the Total Army School System, several comments and thoughts came together during this week that demonstrate how we must engage the foreseeable future.

The CSA spoke about the draw down and our immediate future relative to resourcing; even with a rapid reduction to the Active Component combat brigade structure, we might need to cyclically manage unit readiness levels to ensure we have adequate numbers of troops fully prepared to defend our national interests at a moment's notice. There is also the concern of a rapid loss of Reserve Component operational readiness due to fewer deployments. How can we not only mitigate these challenges but even use them in a manner that benefits both?

I spoke with the command chief warrant officers of both the Army Reserve and the National Guard and we are formulating a concept that capitalizes shared resourcing and experience in a mutually beneficial manner. While neither the USAR nor the ARNG will walk away from the next few years of resourcing challenges unscathed, because their funding sources have different nuances than the AC, there will be times when a RC unit will have greater resources available than a like AC unit. At the same time, because our AC Soldiers have the benefit of being engaged 24/7/365, AC units may have a greater experience base than sister RC units. A mutually beneficial arrangement may include the RC unit funding the inclusion of AC unit personnel at annual training events. This would leverage the AC expertise with the RC training resources to ensure the RC event is successful and give the AC further opportunities for collective training.

There is no telling if such a plan would be approved, but this is the kind of critical and creative thinking that will ensure we remain a ready and relevant force through the challenges of the next few years. Please take an active part as we look to out-of-the-box solutions to push and pull resourcing, personnel, and experience load-sharing in the future.

Again, thank you for your dedication and service in being ever Watchful for Our Country.

Pro Patria Vigilans!

Leaders must look toward future challenges

Signaleers,

Throughout our formations we have Soldiers with four, five, six or more deployments. These Army professionals are the best warriors in the world because of their operational experience.

With our war in Iraq over and the war in Afghanistan coming to an end, now is the time for these Soldiers to become even better. They will do this by sharing their experiences with young Soldiers and junior officers and by concentrating on the fundamentals of the Army profession. I want to share my thoughts about the Army profession.

You need to read Army Doctrine Reference Publication Number 1 "The Army Profession." It is 34 pages, not including the index and appendixes and it will show a clear path for becoming more professional and leading your subordinates to become Army professionals.

The publication covers five areas of the Army profession: military expertise, honorable service, trust, esprit de corps and stewardship of the profession.

Trust is the bedrock of the Army profession.

This includes trust between Soldiers and their families and trust between the Army and the American people.

We have a problem with sexual assault in the Army. You and your Soldiers must get serious about this problem to protect your people and protect the trust between you and your Soldiers.

The actions of one Soldier can strengthen our hard-earned trust, or erode this trust. You must talk with your men and women about how to behave ethically and you must teach them about the beliefs and values enshrined in our nation's founding documents, such as the U.S. Constitution.

As GEN Martin Dempsey said, "External trust is the bond with which we connect with those we serve, our leaders in government and the American people. It must be continually earned."

Military expertise is another building block of the Army profession. We must focus on training to retain the skills learned in the last 12 years of war. And we must improve on those skills by learning new skills, such as cyber warfare, and increase the emphasis on the moral-ethical field, the political-cultural field and the leader/human development field.

Honorable service is part of the foundation that Soldiers need to think about on and off duty. Simply said, honorable service is about doing what is right.

The esprit de corps is about the heart and soul of the Soldier and the heart and soul of your formation. Share the hardship and joy of your profession and you will share in the esprit de corps.

Stewardship of the Army profession is about the long-term responsibility to the Army. You must understand that your work is more than a job; it is an office. You must encourage professional education, encourage Soldiers to become experts, enforce standards, build trust, help Soldiers see how they serve honorably, parent your unit's esprit de corps and inspire your Soldiers to never quit.

Pro Patria Vigilans!

Letter to the Editor

Editor,

I heartily concur with LTC (ret) Fiedler's letter to the editor published in the Spring 2013 edition of Army Communicator and can illustrate the validity of what he advocates regarding radio-education knowledge. During my own Coast Guard Reserve deployment at the SPOD in Kuwait a number of years ago I served as the assistant landside security officer in a Navy command that had responsibility for overall security at the port. While my primary responsibilities centered on the active duty Navy masters-at-arms who were assigned to me, I worked closely with my O-3 counterpart in the National Guard unit also assigned to the SPOD in order to provide effective landside force protection coverage at the facility. This combined FP force performed typical physical security tasks such as staffing entry control points and providing roving patrol services through quick reaction force assets throughout the areas of the port complex that we were charged to oversee and defend.

At one point during my deployment, the VHF communications frequencies on which the ECP and QRF personnel operated became intermittently unusable at various times of the day and in different areas of the port. The dead spots did not always occur at the same locations on the port or at specific times of the day. There were some observable trends (e.g. degradations at times during environmental events like sandstorms or during general times of the day such as afternoon periods), but the trends were not consistent ones. Since the VHF communications were a critical part of the FP posture of the landside security personnel, this problem needed to be resolved.

I should note that I was not a trained communications officer -- though I did serve as one previously in a Coast Guard port security unit. When I assumed that role, I realized that I needed to gain knowledge that I expect would be familiar to junior officer and enlisted personnel who go through single-channel radio coursework at the Fort Gordon schoolhouse or similar training venues. Port security units are provisioned with maritime VHF radios as well as SINCGARS-capable VHF radios in their standard tables of equipment. Because at that time the Coast Guard had no formal single-channel radio school identified for PSU communications officers, I took upon myself the task of learning all I could about VHF ops -- radio theory, antennas, radio wave propagation, and other radio-centric topics that would enable me to do basic communications officer tasks (e.g. selecting the proper antennas to use in base stations, understanding how environmental conditions would affect communications in a port area, ensuring that sufficient frequencies were requested for upcoming operations). Along the way, a Coast Guard colleague recommended that I become a licensed amateur radio operator in order to gain the theory and practice knowledge that would serve me well in my role as a communications officer. I did so and benefitted greatly from that decision during my PSU communications officer tenure.

In the SPOD-communications situation, I gained enough communications-related knowledge during my self-study and time at the PSU to begin asking basic questions: what type of radio system -- trunked or stand-alone repeater -- was the security force using? How far did the signal have to travel from the hand-held radios and vehicle radios to the repeater(s) that were being used? What did the coverage pattern/envelope from the repeater(s) look like and was that coverage sufficient for the needs of the SPOD operators? During the process of answering these questions with Navy communications personnel from my unit, S-6 representatives at the SPOD, G-6 staff members in the area, and the designated commercial hardware vendor in Germany who had the contract for units in Kuwait, I determined that the SPOD was located at the fringe of the coverage area produced by respective trunked-repeaters utilized at the SPOD and that the problem would be resolved by procuring a non-trunked repeater through the Army's supply channels. The hardware was procured, installed, and the problem was indeed satisfactorily resolved.

My experience drove home to me the importance of the type of radio-related knowledge that LTC Fiedler discussed in his letter. I'm sorry to say that while the S-6 and G-6 were quite capable in computing hardware and networking-related topics, they really couldn't help much in the radio domain (especially the propagation-related questions I had). Unfortunately, the only useful information I was able to obtain was hardware-specification information for the trunked system components utilized in the region and the contact information for the vendor-representative in Germany. The rep was quite helpful but I really wished at that time that my S-6 and G-6 co-workers had the answers to my questions.

I strongly urge the curriculum manager at the schoolhouse to take heed of the LTC Fiedler's advice in order to give S-6 and G-6 staff members who must support their respective commands the tools they need to have. Computer-based solutions are important in the communications domain, but they are not sufficient tools for the professional Signaleer to provide a complete communications solution to supported commands.

Brian Warn
Lt. Cmd. (ret), USCGR

Regiment recognizes milestones, celebrates 'Semaphores to Satellites'

THE U.S. ARMY SIGNAL CENTER OF EXCELLENCE AND FORT GORDON

The Commanding General and
Command Sergeant Major cordially invite the military
and Civilian community to attend

THE 153RD REGIMENTAL

Annual Signal Ball

AT THE

Augusta Marriott

22 JUNE 2013

In recognition of the U.S. Army Signal Corps 153rd birthday, senior leaders, Soldiers, distinguished guests and family members gathered together June 22 at the Augusta Marriott to celebrate the annual event in splendor. It was a night of varied activities from prayerful, somber remembrance of fallen comrades and prisoners of war to recognitions of Distinguished Members of the Regiment and of course food, fun and dancing.

MG LaWarren V. Patterson, commanding general of the U.S. Army Signal
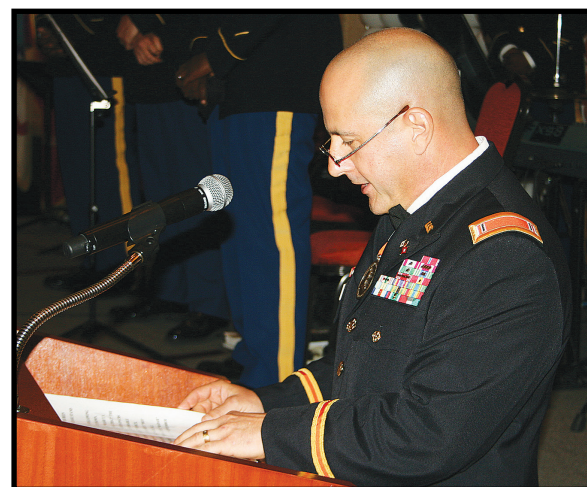
Center of Excellence and Fort Gordon, and CSM Ronald Pflieger, regimental command sergeant major, were accompanied by 90-year-old William "Bill" Cheatham, and PVT Alexander Buchanan, the oldest and youngest Soldier in attendance, in the traditional cutting of the Signal Corps birth-day cake. CW5 Todd Boudreau served as moderator and GEN Dennis L. Via, commanding general of U.S. Army Materiel Command were among the guests attending the celebration. See more photos from the Signal Ball on-line at http://signalballcommittee.pass.us/pictures/i-7PgNX32920454.

Recognizing the traditions of excellence

Distinguished Members of the Regiment are prestigious or notable military or civilian persons who are recognized for their accomplishments. They must be current or former members of the Signal Corps Regiment. Nominees may be active, U.S. Army Reserve, Army National Guard or Signal Regiment Department of the Army civilians (active or retired status).

The designation as a Distinguished Member of the Regiment is largely ceremonial and serves to perpetuate the history and traditions of the Regiment, thereby enhancing unit morale and esprit.

Since Regimental activation, the Signal Regiment has had a program for recognizing people who have made a special contribution or who have distinguished themselves in service to the Regiment.

There are no limits on the number of Distinguished Members, and their tenure is permanent. The positions are designed to promote and enhance the history and traditions of the Regiment and foster cohesion among members of the Regiment.

Criteria and nomination submission procedures for Distinguished Members of the Regiment:

Persons who are recommending an individual for the Distinguished Member appointment, will prepare a justification consisting of a double spaced document of no more than two pages in length.

This justification should cover the entire period of service to the Regiment. If the candidate is then selected, a citation will be prepared by the Office Chief of Signal based on this justification. Reviewing existing citations at the OCOS website will provide the nominator with the type of subject matter and level of achievement that is required. This justification, using a signed memorandum should be mailed to:

• **Office Chief of Signal**
Attn: ATZH-PO
506 Chamberlain Ave.
Fort Gordon, GA 30905-5735

• or send e-mail to
SIGCOEOCOS@conus.army.mil.

This memorandum must contain contact information for both the nominee and the nominator to include physical address, e-mail address, and telephone numbers. These are used for the purposes of acquiring additional information or notification. These nominations will be reviewed by a Regimental board as convened by the Chief of Signal.

Eligibility

Eligibility is as follows: Any military personnel who served as a member of the Signal Corps; any functional area 24 or 53 officer who has officially affiliated with

The centerpiece on the head table at the Signal Regimental Ball displayed the Regiment's motto proclaiming eternal watchfulness for the country.

the Signal Regiment; any civilian employee who is affiliated with the Signal Regiment. For civilians, this is defined as either any Department of the Army civilian employee who has been employed within the CP34 career field or a civilian from any civilian career field who has worked for a Signal Organization for over ten years. Meeting either of these qualifications results in automatic affiliation with the Signal Regiment.

Criteria

Service rendered to the Signal Regiment is of such significance with Regimental-wide impact to clearly place this individual head and shoulders above his or her peers. Although there are no specific time requirements for this award, a nominee is to have long term and continuous service to the Regiment. Each nominee must have spent virtually an entire career in service to the Regiment. It is not necessary for the individual to have served within the Signal Regiment as a military member if subsequent service as a civilian is considered to be long term.

There are no grade requirements for this award. In meeting the time element of the criteria, however, all but our most senior members will normally be excluded. For military members, that may also mean that the nominee continued to serve the Regiment in some capacity as a civilian. Regardless of time served or rank obtained, the board shall be empowered to nominate to the Chief of Signal any individual whose accomplishments are of such magnitude that he or she must be considered for appointment as a Distinguished Member.

Distinguished members inducted
MG (Ret) John L. Scott

MG (R et) John L. Scott served the U.S. of America and the Signal Regiment with great distinction as a Soldier and a professional civil servant for more than 35 years.

He came to the Signal Regiment as a civilian in 1986 and quickly became a moving force and visionary behind the regiment's "Echelon Above Corps" Signal Force evolution; ensuring that the Regiment kept pace with the changing technologies and demands of war fighting commanders.

The extensive force design and signal operations which MG Scott personally envisioned, planned and executed set the conditions for the global network enterprise and for Signal forces to be relevant and successful in today's environment of sustained military operations.

Further, his extensive knowledge of the Reserves and dual role as both a civilian employee and a Reservist enabled him to propose partnerships and enhance capstone programs, improving the war planning process and pre/post mobilization capabilities of expeditionary Signal units.

Some of his many accomplishments include:

--Implemented the transfer of air traffic control mission from information systems, command to the major Army commands in 1987.

--Oversaw the fielding of mobile subscriber equipment—enabling for the first time in Army history, the communications interoperability of units down to the division level in 1990.

--Led the creation, design and resourcing efforts for the Army's first tactical V-I combat camera T-O-E companies in both the Active and Reserve components in 1993.

--Envisioned, designed, developed and obtained funding for prototype data packages, which eventually became type classified/PM products that are today's light weight, rapidly deployable data package concepts.

--These are only a few of the significant accomplishments of MG Scott's military career.

He also has a stellar civilian career demonstrating that he was able to balance family, his successful Reserve career that culminated in rising to the level of major general and an accomplished civilian career where he served up to the GS-15 level.

MG John Scott demonstrated a complete commitment to serving his country and accomplished the most difficult and challenging assignments in such a manner as to bring great distinction to the Signal Corps.

In tribute for a career of commitment and excellence MG LaWarren V. Patterson, Chief of Signal, recognized MG John L. Scott as a Distinguished Member of the Regiment.

Although he was unable to attend the ceremony, MG (Ret) John L. Scott was inducted as a Distinguished Member of the Regiment during the 153rd Signal Regiment Ball held at the Augusta Marriott, June 22, 2013.

LTC Reuben L. Abramowitz (Deceased)

LTC Abramowitz was a Soldier, trainer and educator who dedicated his life to the U.S. Army Signal Corps. On his official military records he claims his sole occupation in life "Professional Soldier with primary duties as a radio communications specialist and later a Signal school commandant." But LTC Abramowitz was much more than that. To a very real extent, his story is an iconic representation of the epic American journey.

Reuben Abramowitz was born Reuben Abramovitch in the Ukraine in 1902. His family came to America in 1902 and settled in the Lower East Side of New York. Shortly after arriving, the patriarch of the family died leaving the family of five children and a widow who spoke no English. Reuben began delivering flowers and selling newspapers when he was six. His formal schooling ended when he was nine years old.

In 1916 at the age of 14, he enlisted in the Army (he lied about his age, saying he was born in 1900). By the time he was 17 he was already a war veteran of two wars, having served in the Mexican Expedition and in World War I. In his spare time he read extensively and improved his education.

He arrived at Fort Monmouth in October 1926. There he began a career within a career as an instructor at the U.S. Army Signal School serving in the 15th Signal Service Regiment for over 15 years. As a member of the faculty, he taught thousands of soldiers the technical skills to be Signal operators during the interwar period. He developed a timesaving method of teaching code and typing and was known as the "Dean of Hangar One." In addition, he spent the summers between 1926 and 1938 teaching Signal communications to cadets at the U.S. Army Military Academy.

In 1942 the 47-year-old NCO was commissioned as a second lieutenant, and quickly rose through the ranks.

His most extraordinary contribution to the Signal Corps came in July 1945 when he was directed to establish a European Theater Signal School at Ansbach, Germany. LTC Abramowitz established a Signal School that brought acclaim, respect and honors from senior commanders for his untiring efforts for producing professional and tactically trained Soldiers. The school graduated an average of 3,000 students each year. He also served as the first installation commander of Ansbach.

LTC Abramowitz retired from the Army after 33 years of service in 1949.

He came to America as a refuge; entered the Army at the age of 14 with only a fourth grade education and went on to become one of the greatest trainers in the history of the Regiment.

In honor of his extraordinary example of professionalism and service to the U.S. Army and the Signal Corps, MG LaWarren V. Patterson, Chief of Signal recognized LTC Reuben L. Abramowitz as a Distinguished Member of the Regiment.

MG LaWarren V. Patterson, Chief of Signal, recognizes LTC (Ret) Ben Abramowitz, who accepted the Distinguished Member of the Regiment certificate for his father LTC Reuben L. Abramowitz during the 153rd Signal Regiment Ball held at the Augusta Marriott, June 22, 2013.

Lieutenant Colonel (Retired)
Rueben L. Abramowitz

R. ABRAMOWITZ
LT. COL.

1156 N 9th Street
Coos Bay, Oregon 97420
Feb. 10, 1999

Dear Sir,

Thank you very much for writing to me concerning my son, SFC Vandervelden. I was amazed when I opened the letter, because the first thing I noticed was a name I remember from about 1947. At this moment, I cannot remember the first name but I remember very well the name of Lt. Col. Abramowitz, 7718th EDCOM Sig School, Ansbach, Germany, and after talking with Frances the other day, we talked about you having your father there with you. I just know that there cannot be any other names like yours around. In any event, I told Frances that I would write to you and tell you some of the things that I know about while attending the school. I feel that they would be interesting even if the Abramowitz that I knew was not related to you. Please bear with me.

One thing that happened (while attending the school) was that there was to be a parade in Nuremberg for some reason and that we, at the school, were to participate in this parade. Col. Abramowitz told us at this formation that we were to march in Class A uniforms and that we all knew how to march so let's do it just as though we all knew each other and had marched together before— no problem. (You must realize that of the several hundred students at the school, we were from all over the European Theatre of Operations). He also stated that we would roll out at 0500 hrs., go immediately to the mess hall and be served steak, potatoes, eggs, and toast, and at 0600 hrs we would be trucked to the Ansbach Banhof, entrained and leave at 0700 hrs. Then he gave us the route and the time of arrival and what we were to do when we got there. I mean to say, he told us everything we would like to know and when it would happen. Hell, we did march in the hot sun, and when we got in front of the reviewing stand we had a band immediately behind us and in front of us, and the one at the reviewing stand. Everyone in our unit attuned themselves to the band behind us and remained in perfect step. It is important to say that there was a myriad of streetcar tracks right there and we had to go around a sharp curve at the same time. We marched at attention for over five miles, past the place where the Nuremberg trials were being held and down to the next train station, whereupon we got on the train and all but stripped and then consumed gallons of beer that was on the train waiting for us.

We were informed the next day at the formation that our unit was the best unit in the parade. Another episode I'll tell you was concerning a Saturday inspection. No sooner had the inspection team left our room when one of them came back and asked me for my name. You could say that I was a little worried about what I had done to deserve a trip to the Office. I went as soon as possible and was ushered into the office and confronted Co. First Sergeant (post personnel). He informed me to go

see someone else, can't remember who, and was told to report to the reviewing stand at the next formation. I subsequently found out that I was the No. 1 pick at the inspection and that there was a General inspecting the school and I was privileged to meet the General and to be on the reviewing stand when the other personnel "Passed in Review". I was of course standing next to Col. Abramowitz.

I have always been impressed with Col. Abramowitz's ability in reading code (cw that is). Actually, his ability to read code was phenomenal. He could read two different channels at the same time, carry on a conversation, and then, he would say, one moment please , and then proceed to type the previous codes he was listening to. He would type with both hands at the same time but using his left hand on the left typewriter and the right hand on the right typewriter, each typing the information from the respective ear. When he caught up with the code he would restart the conversation until he had to stop and type the code conversations again. Remarkable. But, the code speed was faster than 20 words per minute each which is not record speed, however, two codes and an oral conversation all at the same time.

There were other feats, but I can't recall them. I really liked and admired Col. Abramowitz. If he is your father, I sincerely hope that he is well, and I hope you have enjoyed my short stories.

I was a replacement in February, 1946 and reported to the HQ& HQ Co., 37th. Tank Bn., 4th Armored Div., located at Stuttgart. Lt. Col. Creighton B. Abrams, Commanding. We eventually moved to Wetzlar and later became the 37th Constabulary. While I was going to Radio School (7718th Sig. Cen.) the 37th was deactivated and after the school, I reported to the 2nd. Constabulary Regiment in Augsburg and was there until 17 August 1948.

Thank you again for taking up your time. I know how valuable it is.

Respectfully Yours,

Floyd Vandervelden

When COL David Abramowitz was commanding 1/1 Aviation in Ansbach, Germany, he wrote a letter to each one of his soldiers' families. SFC Vandervelden's father received one of those letters. This is his response.

CW5 (Ret) Wayne H. Jensen, Jr.

CW5 (R) Wayne H. Jensen Jr., served in the U.S. Army for more than 32 years.

Born January 12, 1949 in Vallejo, Calif., he entered the Army in November 1975. After basic training at Fort Ord, Calif. and Advanced Individual Training at Fort Sill, Okla., he was assigned to a Field Artillery company in Germany. He rose steadily through the ranks until 1984 when he completed the warrant officer candidate development course at Fort Rucker, Ala and was appointed a chief warrant officer.

From 1985 through 2000 he was assigned to increasingly higher positions including the Defense Communications Engineering Center in Reston, Va., the Warrant Officer Division, School of Information Technology at Fort Gordon, Ga., the Signal Warrant Officer Proponent manager, Office Chief of Signal and others.

CW5 Jensen designed, programmed and implemented the Warrant Officer Management Book. The application consisted of several complex programs written in COBOL and FORTRAN for the Honeywell Mainframe. The application provided warrant officer career managers a tool that allowed them to efficiently manage their warrant officers by MOS, for assignments three-five years in advance. It also provided the warrant Officer Division personnel the ability to make "top of the System" updates. This provided the ability to correct systemic errors in SIDPR updates from the field insuring warrant officer records in the PERSCOM database where accurate.

He holds a Bachelor of Science degree in computer and information science, from the University of Maryland. He has completed many military education programs.

His awards and decorations include the Legion of Merit with one Oak Leaf Cluster; Defense Meritorious Service Medal: Army Meritorious Service Medal with One Oak Leaf Cluster; Joint Service Commendation Medal ; Army Commendation Medal with Three Oak Leaf Clusters; Joint Service Achievement Medal and the Army Achievement Medal with One Oak Leaf Cluster.

In honor of his extraordinary example of professionalism and service to the U.S. Army and the Signal Corps, MG LaWarren V. Patterson, Chief of Signal, recognized CW5 Wayne H. Jensen Jr., as a Distinguished Member of the Regiment.

MG LaWarren V. Patterson, Chief of Signal, presents a certificate of induction as a Distinguished Member of the Regiment to CW5 (Ret) Wayne H. Jensen Jr. during the 153rd Signal Regiment Ball held at the Augusta Marriott, June 22, 2013.

In his own words

CW5 (Ret) Wayne H. Jensen Jr., a new inductee as a Distinguished Member of the Regiment, shares his insights during the 153rd Signal Regiment Ball held at the Augusta Marriott, June 22, 2013.

"Anything I accomplished in my whole career was because of a string of outstanding officers and NCOs who allowed me to do what I believed was the best thing to do… who gave me the freedom to do it.

I can't say enough about the Army. I love the Army. I love the military service and I was really kind of hurt when I had to get out…but all things come to an end.

I want to give one special recognition of thanks and that is to my daughter Whitney. From the time she was seven years old until she was 18, she was with me since I was a single parent during that whole time. You get a lot of support from your spouses and I have to say that Whitney gave me the support I needed. She helped me get through the hard times.

I wouldn't trade any of the time I spent in service."

CSM (Ret) Thomas J. Clark

CSM (R) Thomas J. Clark graduated from Columbia Montour Vocational-Technical School in 1980 and enlisted in the Army Signal Corps that same year. He served over 32 years in the Army, culminating his service as the U.S. Signal Regimental Command Sergeant Major.

He retired from active duty in March 2011 and now serves as a program manager for General Dynamics C4 Systems at Fort Gordon, Ga.

While in the Army CSM Clark rose through the ranks and held a variety of leadership positions in tactical Signal units in Korea, Germany, Iraq and the United States, including command sergeant major f one battalion and two brigades. As an NCO he was one of the most visible leaders in the force, always at the tip of the spear with his Soldiers. He deployed twice, leading Soldiers in combat in support of Operation Iraqi Freedom.

As the Signal Regimental Command Sergeant Major, he was the senior enlisted advisor to the Chief of Signal and Commanding General of Fort Gordon. He served in this position for over three years, traveling the globe, including frequent trips to Iraq and Afghanistan, educating and informing the Signal Regiment. He filled important roles in the development of doctrine, the strategic planning for future communications capabilities, and the professional education, training and leader development programs for the 60,000 communications and computer operations personnel in the Active, Guard and Reserve Army.

As a program manager for General Dynamics, he serves as the primary liaison to the military and the Greater Augusta Community. In this role, he ensures world class professional training and education is provided to an average of 9,000 Soldiers each year. He directly interfaces with the Signal Center of Excellence on emerging learning strategies, operations goals, new equipment fielding and Chief of Signal objectives.

In addition to his extensive military education, he holds undergraduate degrees from Central Texas College and Excelsior College and earned a Masters Degree in post secondary adult education from Troy University.

For more than 30 years, CSM Clark has been an active member of the Armed Forces Communications And Electronics Association, The Association of the U.S. Army and the Army Signal Corps Regimental Association. He is an active volunteer in the community where he spearheaded one of the most successful Wounded Warrior Job Therapy Programs in the region in 2011 and 2012.

In honor of his extraordinary example of professionalism and service to the U.S. Army and the Signal corps, MG LaWarren V. Patterson, Chief of Signal, recognized CSM Thomas J. Clark as a Distinguished Member of the Regiment.

MG LaWarren V. Patterson, Chief of Signal, with the assistance of CSM Ronald Pflieger, regimental command sergeant major, presents a certificate of induction as a Distinguished Member of the Regiment to CSM (R) Thomas J. Clark, during the 153rd Signal Regimental Ball held at the Augusta Marriott, June 22, 2013.

In his own words

"My name is Clark and I'm a husband, father, grandfather, but most of all, I'm a Soldier.

Like my father and his father before him, I joined the Army when I was 18 and got out when I was 50, so many memories and so many events have led to today.

This ceremony is comparable to having your jersey and number retired in professional sports. It would be cool for them to put rafters up in the Gordon club and watch it get hosted up there.

I want my jersey beside those of GEN Via, CSM Ray Lane and COL Pete Farrell. But we would be the first to say a Soldier never retires the jersey. Our jersey...that jersey belongs to America... the military is America's team.

So please re-issue my jersey because all the real heroes are still serving our country. A real Soldier never retires; we just help in different ways. We love our country now more than ever because we have the time to reflect on the sacrifices made by so many. Thank you General Via, for being the Signal Corps' first four-star; MG Patterson and CSM Pflieger for what you do for this post each and everyday, from standing at the gate at zero dark thirty in the morning to fighting for the post in Washington, D.C.

Thanks Mr. Pete Farrell for believing in me and last thanks to my beautiful wife Kandee

CSM Thomas J. Clark, a new inductee as a Distinguished Member of the Regiment, shares his insights during the 153rd Signal Regimental Ball held at the Augusta Marriott, June 22, 2013.

because, in the end what you have is your family and family is everything.

My name is Clark and I'm a Soldier."

Signal Corps general contributed to critical Army transitions ★★★

By Jeff Jurgensen

If you had been standing near the front gate at Fort Dix, N.J. on a warm August day in 1947, you likely wouldn't have noticed the arrival of a young Army recruit by the name of Emmett Paige, Jr.

After all, it was a time when thousands of new recruits attended basic training at Fort Dix and although smart, energetic and physically fit, Emmett Paige was only 16 years old and a recent high school dropout.

He probably seemed very much like many of the other young men to his left and right who were also taking the first step on their journey to become U.S. Army Soldiers. Moreover, the Army of August 1947 was an institution in the midst of great transition.

Emerging from America's victory in World War II, Army leaders were preparing for a very different future. Leaders and planners were also responding to the profound social and cultural changes occurring across the nation.

In particular, the Army of 1947 was still officially segregated by race. In fact, it would be almost another year before President Harry Truman would issue Executive Order No. 9981, directing the integration of the Armed Forces.

Young PVT Emmett Paige, arriving at Fort Dix for his very first day as a Soldier, was African-American, and his life and future service would be shaped by his early experiences in an Army struggling to adapt to this new era.

A Signal Corps Legend

Although few may have noticed his arrival, over the course of the next 41 years, few would fail to notice the tremendous impact Emmett Paige would have across the U.S. Army.

He may have started his service at Fort Dix without a high school diploma, but while there he achieved a perfect score on the Army's Morse code exam which led to his assignment as a Signal Corps Soldier. That test score and the assignment decision which followed would benefit the Army for decades to come.

Within five years, Paige would be commissioned as a second lieutenant and would ultimately rise to become the first African-American Signal Corps officer in Army history to be promoted to the rank of brigadier general. He would later retire in 1988 as a lieutenant general and the commanding general, U.S. Army Information Systems Command.

Throughout his exceptional career, LTG Paige would command troops at every level – from a Signal Platoon at

LTG (Ret) Emmett Paige Jr.

Fort Bliss in 1952; to company command with Company B, 9th Signal BN at Fort Carson; to a combat tour as battalion commander with the 361st Signal Battalion in the Republic of Vietnam during1968.

In addition, as a reflection of his recognized ability as one of the Army's most capable senior leaders, LTG Paige served over 12 years as a general officer – every day of it in command of large organizations with global communications responsibilities to include the former U.S. Army Communications Systems Agency and the Communications Research and Development Command – both then located at Fort Monmouth, N.J.

Beyond his extraordinary leadership skills, LTG Paige would also have a historic impact on the technical

development of the Signal Corps during an era of rapid advancement in both communications and computer technology.

As a major back in 1965, Paige was assigned to a colonel's billet as the program manager responsible for acquiring, developing, designing and engineering the Army's complete communications system for the entire Southeast Asian region. So successful were his efforts that the Army War College described his contribution as having "… laid the foundation of military communications throughout most of the world during the Vietnam War." The AWC's history of LTG Paige's career goes on to credit him with managing and directing the development of communications and information systems in a way that would forever change the way the Army did business.

Honoring LTG Paige's contributions

LTG Paige's legacy and unique contributions were most recently recognized at a dinner held in his honor in Washington, D.C. in June 2013. Attended by senior Signal Corps General Officers and Army leaders, the event was co-hosted by GEN Dennis Via, commanding general, U.S. Army Materiel Command and the first Signal Corps officer to achieve the rank of four-star general, along with his wife Linda.

BG (P) Emmett Paige promotes Danice Crosby to Specialist 4, April 20, 1979..

> *"Every Signal Corps Soldier, in fact every Soldier and service member is better and more capable because of LTG Paige's impact..*"
> - MG Robert Ferrell

"LTG Paige is one of the true heroes of our Army and our Signal Corps," said GEN Via. "He is a gifted leader, a Soldier's Soldier and an innovator whose service set conditions for the success of today's Army and the way we communicate. Our force owes LTG Paige a tremendous debt of gratitude for his many achievements and our current warfighters are able to communicate better, faster and more effectively as a result of his legacy."

Despite the impact LTG Paige has had on the Army's communications mission, he remains a humble leader who focuses on giving credit to those around him.

"I never tried to be a star," LTG Paige once said in an interview with the American Forces Information Service. "I just gave it my best… my troops and co-workers always worked hard to make me a success. They always wanted to be recognized as the best."

In addition to LTG Paige and his wife Gloria, other attendees at the dinner included MG Robert Ferrell, commanding general, U.S. Army Communications-Electronics Command and his wife Monique, along with MG (R) Bob and Valerie Nabors; MG(R) Bill and Shirley Russ; BG (Ret) Velma Richardson and COL(R) Joseph and Marolyn Simmons. All of whom were positively impacted by LTG Paige.

"Everywhere I look in today's Army, I see evidence of LTG Paige's service and incredible leadership," said MG Ferrell. "I see it in the way

our units communicate, I see it in the skill, ability and professionalism of today's Signal Soldiers who benefit from his contributions – and most of all – I see it in a generation of Army leaders who were mentored and developed by LTG Paige. He ranks as one of the most extraordinary leaders in the history of the Signal Regiment. He was always reaching out, always willing to do whatever he could to help another Soldier be better."

Breaking barriers

Because he served during the era when the Armed Forces were struggling with the challenges of racial integration, LTG Paige was often the only African-American officer in a unit or organization. As a result, he both witnessed and experienced the injustices of discrimination, along with the way the culture of the Army changed over time.

Early in his career, LTG Paige was told by a commanding officer that in the Army racial "…integration was wrong, it wouldn't work…" Determined to change his commander's mind, LTG Paige committed to becoming the best officer and leader in the unit.

"To be just as good would cause me to be considered below average," LTG Paige once said. "So I worked harder. I studied harder. I tried to be sure that I knew my job and everybody else's job. I read everything I could get my hands on. I survived by being the best."

LTG Paige not only changed his commander's mind, that same commander would become one of LTG Paige's strongest supporters, even attending many of his subsequent promotions and change of command ceremonies. "When I retired from the Army, he was there," LTG Paige told an Army historian. "He was proud. Nobody could have been prouder."

Despite having to overcome the challenges of discrimination, LTG Paige always had strong praise for the attitude of the troops he was privileged to lead. "The color of my skin, my race was never a factor with my troops and the people on my team."

Success beyond the Army

Following LTG Paige's 41 years in Army uniform he maintained his commitment both to public service and to supporting and developing today's generation of service members.

He went on to serve as assistant Secretary of Defense for Command, Control and

On May 1, 1981, at CECOM Organization Ceremony, MG Emmett Paige, Jr. holds the staff of his command as CORADCOM CSM Matthew Alsman furls the colors for the last time. The U.S. Army Communications Research and Development Command had responsibility for the development and initial acquisition of command, control and communications equipment and for the research that brought new data processing and communications technologies to the service of the U.S. Army. At GEN Paige's left is MG Donald M. Babers.

BG (P) Paige, commander, speaks to members of Neptune Junior High during their visit to U. S. Army Communications Systems Agency, Fort Monmouth, N. J., May 4, 1979.

Communications in the mid-1990s and has also served as a member of the University of Maryland University College's Leadership Circle. UMUC educates many military members and LTG Paige has been actively involved in furthering the university's military scholarship program. As a tribute to his role in mentoring Army leaders, LTG Paige was also named 'ROCK of Year' in 1992, by the ROCKS, Inc., an organization dedicated to

LTG (Ret) Emmett Paige Jr's., legacy and unique contributions were most recently recognized at a dinner held in his honor in Washington, D.C. in June 2013. Attended by senior Signal Corps General officers and Army leaders, the event was co-hosted by GEN Dennis Via, commanding general, U.S. Army Materiel Command and his wife Linda.

developing and expanding opportunities for Army officers.

"LTG Paige is one of the rare leaders who make a lasting contribution no matter what organization he is a part of," concluded MG Ferrell.

"Every Signal Corps Soldier, in fact every Soldier and service member is better and more capable because of LTG Paige's impact. It was a very proud moment for me, and for all of us, just to have the opportunity to recognize him and express our deepest thanks to this great leader for all he has done on behalf of our Army and our nation."

Jeff Jurgensen is a Department of the Army civilian who currently serves with the U.S. Army Communications-Electronics Command, Aberdeen Proving Ground, Md.

One Army School System

By Patrick Baker

The Army requires a school system that is responsive to the needs of the whole Army. To meet this challenge, the Army created the One Army School System.

The OASS enables Active Component and Reserve Component Soldiers to receive high-quality and standardized education from any Army school, regardless of component, thus making the most effective use of existing school capacity and providing the Army with trained and ready Soldiers in a timely and efficient manner.

The One Army School System is made up of Active and Reserve Component schools and centers and is designed to provide the most relevant and realistic training feasible to the Army as a whole. The OASS is designed to improve Army readiness and also reduce cost for training of Soldiers on active duty, in the U.S. Army Reserve and the Army National Guard. The OASS supports the Army Learning Model by extending the school house to unit locations and overcoming distinctions between strictly institutional training and the Operating Force.

In 2007, planners in the U.S. Army Training and Doctrine Command conducted a feasibility study of bringing all Army training, regardless of location or component, under one command. This study suggested the synchronization of the three separate Army component school systems to allow Soldiers to attend the right classes at the right time, regardless of the location or component of the school or center providing the education. The OASS concept is based around the idea of a single integrated and centralized training seat allocation system existing for all training. It also includes standardized course content, standardized course design and delivery and quality assurance verification of training standards and outcomes.

The key to the OASS is equivalency. Equivalent courses achieve the same level of proficiency within a specific Critical Task List. Courses are considered equivalent if they meet the following criteria:
• Train the same Critical Task List as established by the proponent.
• Employ identical evaluation mechanisms (e.g. tests,

> *The OASS enables Active Component and Reserve Component Soldiers to receive high-quality and standardized education from any Army school, regardless of component*

practical exercises).
• Evaluate performance with identical criteria.
• Employ similar, but not identical, learning tools and training enablers, to the greatest extent possible.
• And produce comparable student proficiency

The OASS will create a set of Multi-Component Noncommissioned Officer Academies. A Multi-Component NCOA improves the integration of the Active Component and Reserve Component training systems by standardizing training, leveraging resources, and incorporating lessons learned.

The effort to develop and implement the OASS is being led by U.S. Army Training and Doctrine Command in close cooperation with the Headquarters, Department of the Army, U.S. Army Reserve Command and the Army National Guard Bureau.

In 2012 COL William Abernathy, then director of TRADOC's Reserve Component Training Integration Directorate, stated: "Strategically, the One Army School System is the best way to maintain individual readiness Army-wide by ensuring consistent standards across all components. The One Army School System standardizes Army individual education regardless of component and saves resources by offering geographical convenience."

Many RC schools are already certified as Institutions of Excellence by the TRADOC Quality Assurance Office. Also, many of these Institutions of Excellence are located at or near Forces Command installations and already deliver proponent-certified training at or very near to the Soldier's home station. Using these various training sites will benefit the

Army by reducing the number of required Mobile Training Teams. Further, they allow for completion of professional military education courses in a shorter period of time and also increase the opportunities to meet training requirements, all while reducing travel and keeping Soldiers at, or near, to home.

During Fiscal Year 2012, more than 1,700 AC Soldiers attended RC institutions. This trend has continued in FY 2013 and is expected to continue in FY 2014 as well, with AC Soldiers filling training seats that would otherwise be empty at RC schools.

The SIGCoE has long produced equivalent enlisted Military Occupation Specialty producing courses for the USAR and ARNG to present locally, enhancing their ability to reclassify Soldiers to meet the changing mission requirements of the Reserve Component units. These courses have been well received and are developed with the active participation of the USAR and ARNG.

In addition, the SIGCOE has had an RC version of the Captain's Career Course; a combination of distance education and resident attendance at phases presented at the SIGCOE. Equivalent RC Warrant Officer training is also presented at the SIGCOE,

which maintains both single phase versions designed for the AC Soldiers, and multi-phased versions designed to meet the needs of our RC Warrants. All three components may attend either version, depending on their availability for training.

Also, currently the Signal Center of Excellent is revising Programs of Instruction to conform to the OASS concept by providing for standardized training and education regardless of school or center location or component. SIGCOE is focused on revising the NCO courses first. All Soldiers attending any of the institutions will have to reach the same high standards to successfully complete the required courses.

Further, LandWarNet eUniversity (https://lwn.army.mil/), the SIGCoE on-line learning portal, already provides MOS training materials to Regional Training Institutions such as Professional Education Center in Little Rock, Ark. and the High Tech Training Center in Sacramento, Calif. for MOS 25B: Information Technology Specialist and MOS 25Q: Multichannel Transmission Systems Operator-Maintainer, as well as to others sites and for other MOSs. SIGCoE will leverage this existing

capability to further grow and support the OASS as it is implemented.

Leaders in the Army, TRADOC and the SIGCoE are all committed to maintaining high training standards across all components and are carefully and deliberately implementing changes to training and education policies to implement the One Army School System.

Patrick Baker entered civil service in September, 1998. He is a graduate of the Department of the Army Training Development Intern Program. After completing the intern program, Mr. Baker was assigned as a Training Developer in the Regimental Officers' Academy. He then moved to the U.S. Army Computer Science School where he also worked as a Training Developer for Warrant Officers Professional Military Education. This was followed by assignments in the 15th Signal Brigade as the 25Q Training Developer and Chief of the Area Communication Training Development Branch. He has served in his current assignment since 2007. Mr. Baker holds degrees in Education, History, European History and Political Science.

Join the Discussion
https://signallink.army.mil

ACRONYM QuickScan

AC - Active Component
ALM - Army Learning Model
ARNG - Army National Guard
DA - Department of the Army
FORSCOM - Forces Command
FY- Fiscal Year
LWN-eU - LandWarNet e-University
MOS – Military Occupation Specialty
NCO – Noncommissioned Officers
NCOA - Noncommissioned Officers Academies
NGB - National Guard Bureau

OASS – One Army School System
PEC - Professional Education Center
PME - Professional Military Education
RC - Reserve Component
RTI - Regional Training Institution
SIGCOE - Signal Center of Excellence
TRADOC - U. S. Army Training and Doctrine Command
USAR - U.S. Army Reserve
USARC - U.S. Army Reserve Command

Army Learning Model Proof of Concept radically changes school

By J. C. Mathews

In many ways, the Satellite Communication Systems Operator/Maintainer Course module that began on February 11, 2013 was like those that came before it. But the 12 privates and one
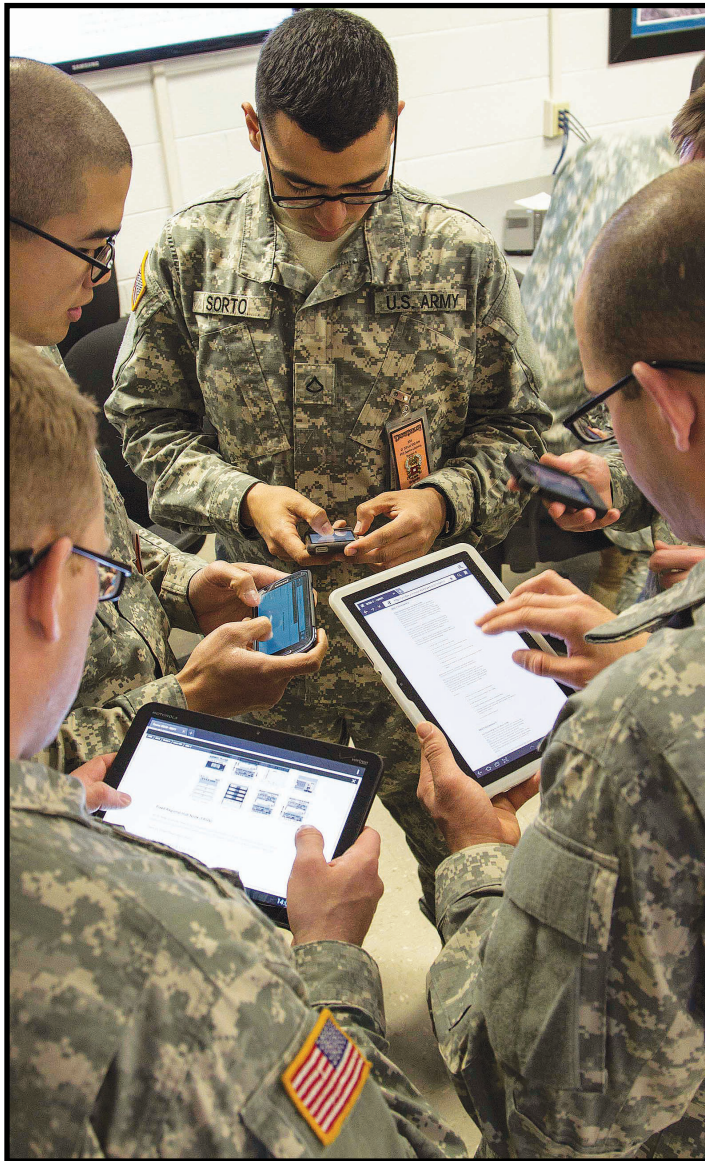
Students at the LandWarNet School collaborate on course material using their own mobile devices to access course material.

> *"The students in this class showed us that the model works and that today's learner adapts quickly and welcomes the concepts of self-paced learning, critical thinking, and facilitated discussions."*
>
> - Tabitha Waldrop

corporal who entered the module broke ground on a new concept for instruction that may change the course for all who follow them.

Incorporating for the first time many Army Learning Model and Experiential Learning Model methodologies, the class was taught without slide presentations, with all course materials accessible via mobile devices when needed.

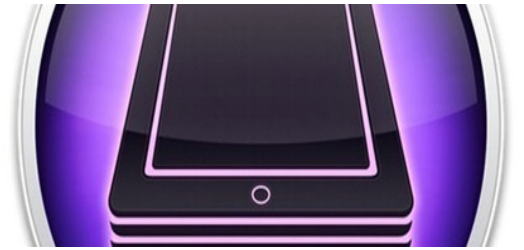"This is 21st Century Training alive and well," said Tabitha Waldrop who supervises the training development section as part of the Signal Center of Excellence's LandWarNet School. "The students in this class showed us that the model works and that today's learner adapts quickly and welcomes the concepts of self-paced learning, critical thinking, and facilitated discussions."

The module lasted two weeks, and gave the course a new look and feel. For example, all of the course material was Web-based; making slides a relic of the past. Soldiers were able to navigate through mobile-friendly training content at their leisure, often becoming discussion leaders as well as participants. Facilitators were able to ask leading questions and draw concepts for discussion on a wall-sized white board.

Mike Wilson, a satellite facilitator at the LandWarNet school assists students with the day's learning objectives.

Waldrop said the new methods helped save a day of training that might otherwise have been lost to the weather. Rain prohibited the students from completing an initial equipment tour on the first day, but they were able to make use of virtual labs, including high-definition images of the vehicle mounted equipment with brief explanations for each component.

"Covering all defined objectives and all trained tasks, the interactive learning environment for the Soldiers was a fresh experience," Waldrop said. "The facilitator redirected questions to the class, helping them to figure out many answers for themselves, based on facts they already know."

The class also maintained a "parking lot" on the white board for any questions they couldn't answer right away, but would eventually answer along the course of the class.

Waldrop added that students were able to take responsibility for their own learning, taking self-guided tours on the equipment, researching topics for discussion in the classroom, and utilizing read-ahead material. This class would bring their own mobile devices (BYOD – bring your own device) to access training content from the closed network. Tablets were provided for those who did not bring their own.

"The students in this class showed us that the model works and that today's learner adapts quickly and welcomes the concepts of self-paced learning, critical thinking, and facilitated discussions under the Experiential Learning Model," Waldrop said.

Student comments indicated that they enjoyed how the course material was written and presented:

"It seemed like each topic was introduced through simple concepts building upon themselves, and then we were presented with the main learning material. This worked well," wrote one student.

"The way this class is taught and the way the instructor facilitated the classroom made me excited to get to class every day," said another.

J.C. Matthews is the Fort Gordon post public affairs officer.

Total Army School System

2nd Brigade, 100th Division Reserve Component Contribution

By COL John H. Phillips and LTC Bryan Bell

The 2nd Brigade, 100th Division is a U.S. Army Reserve training brigade that provides high quality career management field 25-series Military Occupational Skill training and Non-Commissioned Officer Education System training in accordance with U.S. Army Training and Doctrine Command programs of instructions. Together with the 15th Regimental Signal Brigade and the Fort Gordon Non-Commissioned Officer Academy, the 2nd Brigade, 100th Division encompasses the Total Army School System for the Signal Regiment.

Why?

The reserve component requires its own unique organization to train 25-series MOS and conduct Signal NCOES in part due to the limited time away from employment or schooling that citizen-Soldiers can spare. With primary careers or schooling to tend to, the reserve POI compliments, rather than hinders, the limited two to four weeks that most Reserve or Guard Soldiers have available to allocate to training.

Flexibility with employer's profit or main business cycles are key considerations we use in development of the reserve POI. Reserve component courses are designed as two, three, or four independent phases to complete the MOS-course; phases are between 9 and 24 days long depending on the MOS.

The average is about 18 days long, which equates to 3 weeks away from civilian responsibilities. Additionally, since RC Soldiers are assigned to operational units and conduct monthly readiness training, the course is designed without the inclusion of warrior tasks; RC MOS-producing schools concentrate only on the technical

	Reserve Component Course		Active Component Course
MOS Course	Total Days	Phases	Total Days
25B1O	54	3	136
25C1O	30	2	88
25N1O	62	4	143
25Q1O	21	2	105
25S1O	42	3	105
25U1O	36	2	112
94F1O	46	2	119

skills required to award the MOS. Through schedule optimization, the RC-course schedule teaches 54-hours a week, Monday through Saturday, with Sunday off in lieu of the 40-hour training week in an active component school. These efficiencies are aggregated to reduce the training cost to produce a highly qualified RC Signal Soldier and return them to their civilian employer in a timely manner.

Nearly half of the Expeditionary Signal Battalions (11 of 23) reside in the National Guard and Army Reserve while two-thirds (4 of 6) of the rotational force pool Tactical Theater Signal Brigades reside in the Reserve Component.

Strengths

Today's Reserve Signal Component is comprised with operational units that are equipped with the latest modern equipment and staffed with highly-trained Soldiers with combat experience in deployments to Iraq and Afghanistan. Likewise, the instructors within 2nd Brigade, 100th Division are combat proven and technically skilled.

Many of our instructors execute their Signal and Cyber skills daily in their civilian employment with companies such as Cisco©, Microsoft©, Verizon©, General Dynamics©, and Time Warner Cable©, to name a few.

In addition to the fiscal advantages of reduced course length, 2nd Brigade, 100th Division has high-tech training campuses on both coasts: Sacramento, California and Tobyhanna, Pennsylvania. This allows for reduced travel costs for RC Soldiers to attend training and centralizes training closer to reserve component signal units. Additionally, NCOES courses utilize facilities on Fort Gordon when vacant or on off-hours to further improve asset utilization and reduce costs.

Over the past three fiscal years, the 2nd Brigade, 100th Division graduated 5,961 Soldiers from its courses and was a major contributor to the 112.9 million dollar savings using the MOS Transition Blended Learning Initiative.

Reduced training costs, shortened and flexible time away from employers are hallmarks 2nd Brigade, 100th Division courses. We

LEGEND
- ⭐ BDE HQs
- 🔺 High Tech Campus
- 🔴 BN HQs
- ⬠ BN Det. w/ SGM
- ▪ Instructor Base

2nd Brigade / 100th Division
Geographic Locations

Sacramento, CA
- HQ, 2nd BDE / 100th DIV (W71BAA)
- 2nd BN - 104th REGT (W717AA)
- High Tech Center - SAC (W1HZAA)

Anderson, IN
- 3rd BN - 100th REGT (W70CO1)

Scranton / Tobyhanna, PA
- 3rd BN - 80th REGT (W73A01)
- High Tech Center – Toby (W6NGAA)

Cedar Rapids, IA

Denver, CO

Costa Mesa, CA

Ft. Sill, OK

Ft. Knox, KY (W70C02)

Little Rock, AR

Owings Mills, MD

Ft. Dix, NJ

Cranston, RI (W73A02)

Huntsville, AL (W72902)

Ft. Huachuca, AZ

Ft. Bliss, TX

Dallas, TX

Albuquerque, NM
- 3rd BN - 95th REGT (W75FAA)

Augusta / Ft. Gordon, GA
- 3nd BN - 108th REGT (W72901)
- FWD, 2nd BDE / 100th DIV

Battalion and company commanders stand in formation with their unit colors/ guidon during a 2nd Brigade ceremony at B.T. Collins Parade Field, Sacramento, Calif. on 4 May 2013.

are an important part of the Signal Center's implementation of TRADOC Doctrine 2015 with standards and quality of instruction remaining the same as our active-duty counterparts.

Opportunities

The 2nd Brigade, 100th Division is composed of five battalions in different states providing close proximity to the RC operational Signal units we teach and train. This geographic dispersement

Why a Signal Brigade's colors are not orange

The 100th Division was constituted 23 July 1918 in the National Army. Between World War I and World War II, the Division was re-constituted into the Organized Reserves. In 1942, the Division entered active service and re-organized as the 100th Infantry Division. The Division arrived in Europe in November 1942 and participated in the Rhineland, Ardennes-Alsace, and Central Europe campaigns.

In 1946, the division was re-designated as the 100th Airborne Division in the Organized Reserve. It was re-designated and reorganized as 100th Infantry Division in 1952. In 1959, the division
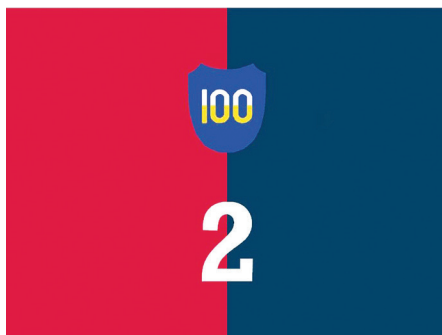
was again re-designated and re-organized as the 100th Division (Training) and ordered into active service in 1961 and then released from active service in 1962 and reverted to reserve status. In 1977, the division's training mission was changed from Infantry to Armor. The division was again re-designated on 1 October 1994 as the 100th Division.

Today, the 2nd Brigade,

100th Division conducts reserve component Military Occupational Specialty training and Non-Commissioned Officer Education System training for 25-series specialties yet retains its lineage with an infantry division. The battalions within the 2nd Brigade, 100th Division, retain regimental lineage with five different combat arms regiments. The Brigade's colors are red and blue of an infantry brigade while the battalion colors are orange with a regimental design and a battalion numerical designation.

The three other "sister" brigades of the 100th Division today provide training for Health Services, Military Intelligence, and Civil Affairs/Military Information Support Operations.

allows unit trainers to quickly support mobile training teams for specialized instruction in such areas as Combat Service Support Automated Information System Interface and Single Channel Ground and Airborne Radio System—again with short notice and reduced travel costs.

For Soldiers coming off active duty and looking for an opportunity to continue their military career—the 2nd Brigade offers an excellent opportunity to continue their military service and begin their journey in the Army Reserve.

Our nationwide organizational structure uniquely suits most Soldiers relocating back home for civilian employment or schooling. With flexible locations to choose from 2nd Brigade offers NCOs many locations to meet Battle Assembly (formerly known as drill weekend) requirements without having to travel to the battalion headquarters every month.

The Army Reserve offers citizen-Soldiers the opportunity to serve near home until they are needed for operational missions. Reserve Soldiers receive the same training as active-duty Soldiers.

For roughly two weeks a year, Reserve Soldiers serve on active duty, focusing on challenging field and specialty training. Additional time may be possible using Active Duty for Training orders or extended Annual Training up to 29 days. Today's Army Reserve is 207,000 troops strong.

The Army Reserve offers many of the same benefits as the full-time Army, including fair pay for all time spent training or deployed. Reserve Signal Soldiers develop skills and confidence, working as a team toward a larger goal.

Your military retirement continues with service in the Reserve Component as well—so a Soldier coming off active duty will get credit for all time served in his or her retirement.

One major incentive that the Brigade offers Soldiers in the ranks of Sergeant and Staff Sergeant is promotion potential. Our instructor Battalions offer significantly more senior grade NCO positions than operational Signal units. The typical 2nd Brigade Battalion has two sergeants major, five-nine master sergeants, 20-30 sergeants first class, and 20-30 staff sergeants. Our ideal candidates are active duty junior NCOs with tactical Signal experience and combat deployments.

As we move forward in development of our POIs, there is a very strong need for 25B, 25S, and 25N, in addition to all other 25-series MOS Soldiers.

COL John H. Phillips is the commander of 2nd Brigade, 100th Division. He has served a total of 22 years--10-1/2 years on active duty before joining the Army Reserves. He previously commanded the 324th Signal Battalion in Iraq and was the Director of the Joint NetOps Control Center and Brigade S3 for the 359th Tactical Theater Signal Brigade in Afghanistan.

LTC Bryan Bell is the executive officer of 2nd Brigade, 100th Division. He previously commanded 3rd Battalion (Signal), 95th Regiment.

ACRONYM QuickScan

ARNG – Army National Guard
CAISI – Combat Service Support Automated Information System Interface
MOS – Military Occupational Skill
NCO – Non-Commissioned Officer
NCOES – Non-Commissioned Officer Education System

POI – Program of Instruction
RC – Reserve Component
SINCGARS – Signal Channel Ground and Airborne Radio System
TRADOC – U. S. Army Training and Doctrine Command
USAR – U. S. Army Reserve

Mission Training Complex Sites Enabling Home Station Education

By MAJ Indira R. Donegan

One of the most valuable training resources you may not have heard of is the Mission Training Complex, otherwise known as an MTC.

The Army has 32 MTC's across the globe to support Home Station Training.

When I attended the Intermediate Level Education at Fort Leavenworth, my class was often provided opportunities to meet with senior military leaders. While the discussions always had something for your kitbag, I was shocked at the running theme in each of these events.

Senior officers with 10-15+ years of seniority were of the opinion that junior officers who only knew an Army at war, didn't know how to "train." Really?

With my BN S3 and XO days long behind me, certainly there are things I wish our team could have done better. We developed training plans, and strove to constantly improve them. The plans worked, and we were a success.

In retrospect, I have to surmise that we probably could have achieved more.

The question arises, 'did the shortfall exist because we didn't know how to train?'

The answer is no. Ultimately, we were not fully aware of what was at our disposal.

Home Station Training is one of several coined terms found in TRADOC PAM 525-5-8, The U.S. Army Training Concept 2012-2020 that essentially explains why a Soldier's necessary training needs to be available at the point of need. MTC's provide commanders and staff members the capability to sustain individual digital skills and unit mission command collective training in order to

Joint Base San Antonio police use the Mission Training Complex Dismounted Soldier Training System capability for a high impact training evolution.

maintain war fighting functional competencies. By offering a toolkit of virtual, constructive, and gaming training enablers set in a replicated operational environment, the MTC provides the capability of integrating these enablers with the live training environment. When all four training environments--live, virtual, constructive and gaming--come together, units get to experience the seamless integrated training environment which enables commanders to produce trained and ready forces at home station.

The MTC's augment the unit's training by offering a wide variety of training enablers that radically enhance training. MTC facilities, whether new construction or legacy, include classrooms, reconfigurable tactical operations centers furnished with mission command systems that replicate battalion to echelon above corps, and the physical space required to conduct constructive simulation exercises that stimulate MC systems.

The facilities are fully networked to distribute training and to allow training at different classification levels simultaneously.

Some MTC facilities have co-located TOC pads where units can set up their own vehicles and equipment to conduct TOC integration training and CPXs using a direct exercise feed from the MTC.

Currently the National Simulation Center is partnering with the 7th Signal Command to network the MTCs and centers of excellence which will
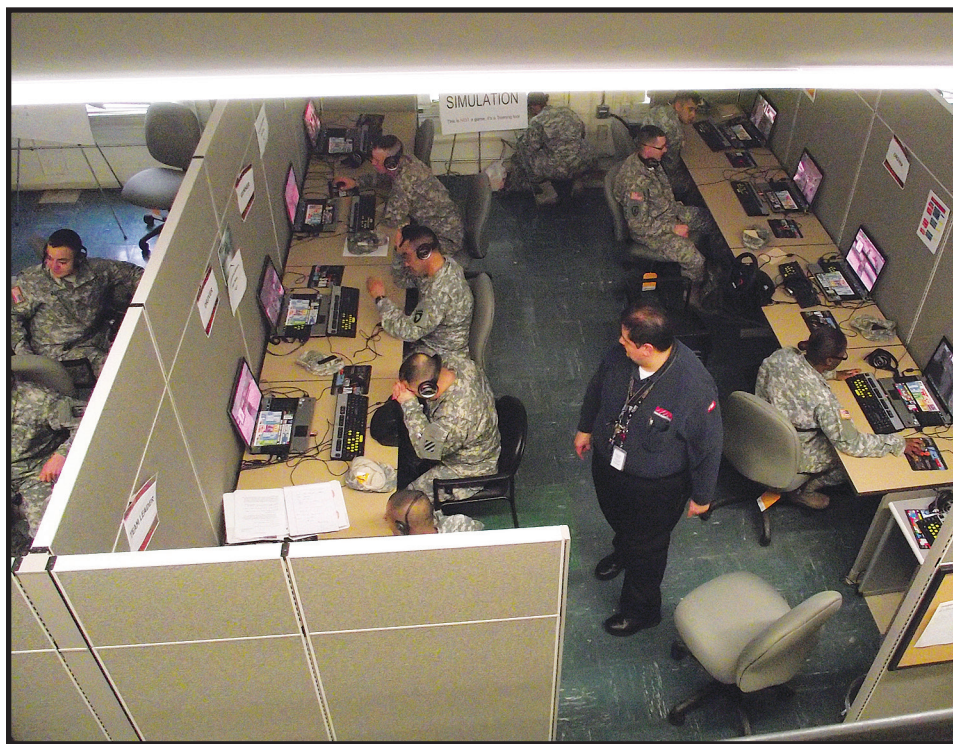
A reconfigured room inside the Joint Base San Antonio Mission Training Complex provides individualized activities for each student.

seriously amp up distributed exercises between schools and installations.

Is your Captain's Career Course doing multi-branch StaffEx? Would you like to execute a collective training exercise where the Signal CCC and the Fires CCC write the annexes for the Maneuver CCC capstone event and track their AOR's from afar? With a few extra TACLANEs, the MTCs can make anything happen, and this is the direction we are moving in.

So what can you expect from your local MTC? The MTC staff will analyze your training objectives and overall MC training needs. The staff will provide scheduling and planning support, to include scenario development and

integration of multiple events/ multiple echelons. Based on your training objectives and intent, they will recommend the right mix of simulation, stimulation, gaming and virtual training enablers as well as a suggested map of progressive and iterative training. I would submit that if you walked into your MTC with nothing but a confused look on your face and a list of MOS's within your unit, the staff could help you come up with something impressive. The best part about all this capability is that it is completely free and waiting for you.

Still not convinced the MTC has a flavor to suit every taste? Consider this. All Army Battle

A Tactical Operations Center is set up outside a Mission Training Center to provide a holistic environment mimicing actual field conditions.

Command Systems are available for training at the MTC--FBCB2, AFATDS, BCS3, DCGS-A and CPOF, to name a few. Non-ABCS systems are also available, such as: Axis Pro, CIDNE, DAGR, Movement Tracking System, and Tactical Ground Reporting System. Their list of training aids, devices, simulators, and simulations for collective training include: Virtual Battle Space 2, VBS2 Fires and VBS2 Land Navigation, Dismounted Soldier Training System, Moral Combat, Tactical Language Trainer, HUMINT Control Cell virtual trainer, Close Combat Tactical Trainer, and several aviation and vehicle trainers.

The bottom line is that the MTC is ready to serve every skill set in the Army inventory in some fashion, from Signal, to Military Intelligence, to every possible combat arms branch.

Whether your training strategy consists of stand-alone training for individual or platoon sized elements, Military Decision Making Process training as an professional development training opportunity, or scenario-driven multi-echelon MC training, the MTC is your combat multiplier. Schedule a tour and see how leveraging some very cool toys on the installation's dime can significantly boost your training events.

MAJ Indira Donegan was commissioned in 1999 and is a 25A, currently serving as the G6 for the Combined Arms Center for Training at Fort Leavenworth, Kan. She provides direct support to all directorates under CAC-T to include both the National Simulation Center and the Mission Command Training Program.

Join the Discussion
https://signallink.army.mil

ACRONYM QuickScan

ABCS – Army Battle Command Systems
CAC-T - Combined Arms Center for Training
CCC - Captain's Career Course
CoE - Center of Excellence
CPX - Command Post Exercise
HUMINT - Human Intelligence
LVCG-IA - Live, Virtual, Constructive, Gaming- Integrating Architecture
MC - Mission Command
MTC – Mission Training Complex
RTOC - Reconfigurable Tactical Operations Center
STAFFEX – Staff Exercise
TOC - Tactical Operations Center

Cloud services expanding

By Kathryn Bailey

Less than 10 years ago, Army unit commanders planned battles using topographic paper maps overlaid with information written onto clear plastic acetate. This process was bulky, slow to update and every command post's picture was slightly different.

In response to these limitations, the military developed new technologies that provide shared data on digital maps, displayed on several screens in the commander's tactical operations center.

First introduced in Operation Iraqi Freedom as stand-alone systems, today's digitized maps use web-based, three-dimensional geospatial technology that pulls in data from various systems onto a single map. This comprehensive, common picture of the battlefield enables collaboration between the commander, Soldiers in the field and higher headquarters for optimal operational planning.

"This real-time pace is an invaluable capability for commanders on the battlefield," said COL Jonas Vogelhut, the Army's project manager for Mission Command. "What used to take a day to plan can now be accomplished in 20-30 minutes."

Although some units and situations still rely on paper maps with acetate overlays, the military has embraced the steady evolution of digital map technology, including Command Post of the Future.

CPOF is fielded by PM MC, which is assigned to the Program Executive Office for Command, Control and Communications-Tactical. Since 2005, CPOF has provided collaborative TOC technologies through a Common Operating Picture up and down the chain of command, delivering situational awareness for the commander.

"I was juggling multiple overlays of acetate on a map to successfully battle track current operations," said MSG Kevin Hanly, non-commissioned officer in charge of Tactical Mission Command, assigned to PM MC. "We got the job done, but with our mission command systems today, like CPOF, we're able to simplify the process and give the commander a more accurate and robust situational report."

CPOF pulls in feeds from other map-based, mission command systems, including PEO C3T's Joint Capabilities Release and Tactical Ground Reporting. JCR, which is located in TOCs and mounted inside tactical vehicles for "on the move" battle planning, and its successor Joint Battle Command-Platform form a two-part upgrade to the
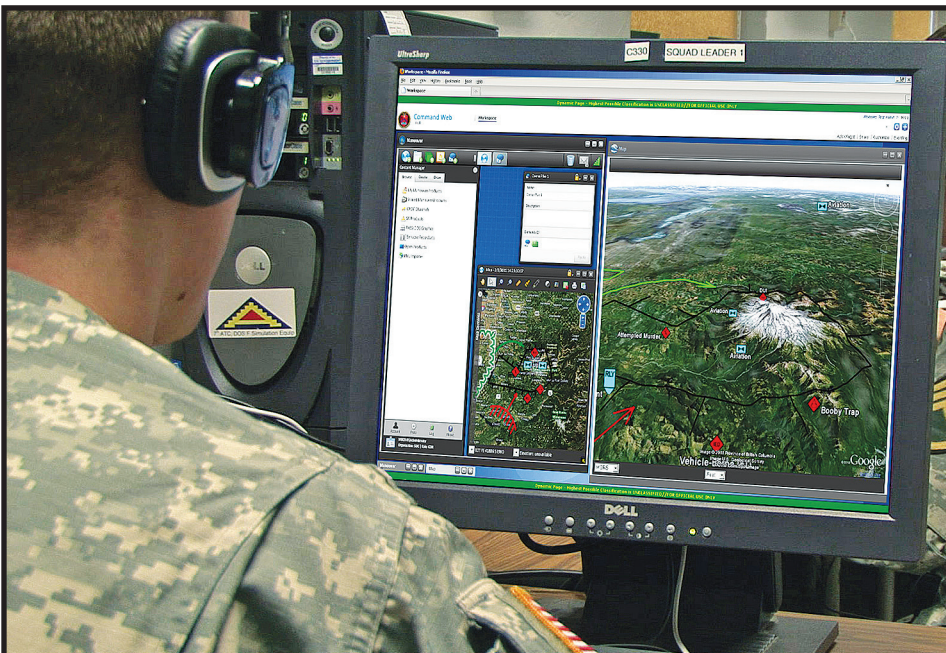
Command Web is a web-enabled environment developed to meet the Army's direction for a Common Operating Environment for the Command Post Computing Environment. With Command Web, users access applications over the Internet instead of through software installed on a computer to display war fighting functions on a common, geospatial map.

Soldiers from the 2nd Brigade, 1st Armored Division use digitized maps to collaborate inside the Tactical Command Post during a recent Network Integration Evaluation at White Sands Missile Range, N.M.

widely fielded Force XXI Battle Command Brigade-and-Below/ Blue Force Tracking. These capabilities deliver accurate and timely situational awareness by enabling Soldiers to track friendly (blue) and enemy (red) forces on a geospatial imagery map.

TIGR is a web-based tool with a Google-Earth-like interface that empowers Soldiers to digitally collect, share and analyze information while on patrol, such as common incidents or data on residents and leaders of a village.

The latest technological leap supporting digital maps comes by way of cloud technology, which allows users to access applications over the Internet instead of through software installed on a computer. Warfighting functions can now be displayed on a common, geospatial map to provide both operational and intelligence data to the commander in real time. Instead of acetate layers, users open applications, or "widgets," to digitally layer these functions, complete with icons to represent activities in the areas of movement and maneuver, fires, sustainment and air space management.

"With this technology I can use a web page to track fuel or ammunition deliveries; tie that information to where my assets are today and how that relates to my enemy picture of tomorrow; determine where the aircraft is going to be flying and plan an airstrike -- all on one map," COL Vogelhut said. "It's a comprehensive, real-time picture that is crucial for successful battlefield operations."

The enhancement to real-time information sharing is particularly crucial when obtaining intelligence during fragmentary order development, where each passing minute can dramatically alter the entire intelligence picture.

"Our geospatial maps are compliant with the maps 'intel' agencies use," said COL Charles Wells, PM for Distributed Common Ground System-Army, which is assigned to PEO Intelligence, Electronic Warfare & Sensors. "We used to have to sit around a table, discuss operations, and then manually pump information into CPOF to view our intelligence. Now we're all working off the same set of data so when something changes everyone sees it at the same time, allowing for a high op [operations] tempo."

The key software product used to converge these map technologies is a government-owned framework that enables rapid third-party widget development. The COP is viewed on Command Web, the web-enabled environment developed by multiple PMs, including PM MC and PM DCGS-A, to meet the Army's direction for a Common Operating Environment and the Command Post Computing Environment.

Soldiers in Afghanistan and U.S. Army Europe are currently piloting Command Web's collaborative mapping capabilities, and the COE with Command Web widgets has been evaluated by Soldiers during the Network Integration Evaluations at White Sands Missile Range, N.M. The NIEs are semi-annual field exercises designed to rapidly integrate and mature the Army's tactical communications network, and provide an environment where all of the digital map technologies converge for Soldiers to experience realistic operational environment planning techniques.

Enhancing the commander's ability to make speedy yet accurate decisions, especially when mission objectives change, continues to drive the evolution of digital map technologies.

"I was trained to build and track the enemy situation utilizing paper maps and acetate layers," said SFC (ret) Josh Bauer, a former senior technical intel analyst, 20th Support Command Chemical, Biological, Radiological, Nuclear and Explosive who now works for PM MC. "However, when we received orders to look closer at a particular village, we had to rescale our maps and redraw all the graphics to provide the desired view. Upgrading to digital maps not only shortened the process time significantly, it meant that the commander didn't have to rely solely on the analyst's ability to graphically display the battle by hand."

Building upon existing technology, tomorrow's commanders will gain an even greater situational understanding of the battlefield when future geospatial, operational and intelligence capabilities converge. From plastic overlays and grease markers to digitized, real-time maps, commanders and their staffs are much less likely to second-guess the physical environment standing between their mission launch and mission completion.

Kathryn Bailey is the public communications advisor and staff writer for Project Manager Mission Command, which is part of Program Executive Office Command, Control, Communications-Tactical out of Aberdeen Proving Ground, Md. Ms. Bailey formerly held communications positions with Intelligence and DoD agencies.

ACRONYM QuickScan

CBRNE - Command Chemical, Biological, Radiological, Nuclear and Explosive

COE - Common Operating Environment

COP - Common Operating Picture

CP CE - Command Post Computing Environment

CPOF - Command Post of the Future

DCGS-A - Distributed Common Ground System-Army

FBCB2/BFT - Force XXI Battle Command Brigade-and-Below/ Blue Force Tracking

FRAGO - Fragmentary Order

JBC-P - Joint Battle Command-Platform

JCR - Joint Capabilities Release

NIE - Network Integration Evaluation

PEO C3T - Program Executive Office for Command, Control and Communications-Tactical

PEO IEW&S – Program Executive Office for Intelligence, Electronic Warfare & Sensors

TIGR - Tactical Ground Reporting

TOC - Tactical Operations Center

NSA implementing new commercial strategy

By MAJ Paul Meaux

The National Security Agency is moving toward commercial solutions and standards to secure Department of Defense networks and devices.

The initiative, known as Commercial Solutions for Classified, is the harbinger of the NSA Information Assurance Directorate's new customer support model. The goal is to provide customers and integrators with more choices for designing secure data transmission and storage methods. NSA/IAD leaders recognize that the extensive multi-year process for certifying secure devices and architectures cannot keep pace with the changes in communication technologies. CSfC is designed to leverage emerging technology while still meeting the security needs of NSA/IAD customers in a timely manner.

Traditionally, the NSA designed and certified devices for the U.S. Government in order to secure sensitive and classified data. This makes sense as the strict design and implementation criteria used by the NSA to certify these devices ensured that customers and integrators could trust in the protection of their data. Network architects relied on the exhaustive evaluations conducted by NSA engineers to backstop the security of their systems. However, the time it took for these devices to pass through the rigorous certification, testing, and evaluation process was inflexible and could not accommodate the speed at which communication technologies changed.

CSfC Strategy

The NSA is not moving away from providing fully NSA-certified Type 1 encryption devices. NSA policy states that, "…government-off-the-shelf systems will not be directly impacted by CSfC; however, over time, commercially-based solutions will be integrated into customer's existing infrastructures (CSfCPO 2012)."

NSA managers will "decide on a case-by-case basis which products will continue to be supported, and the duration of that support (CSfCPO 2012)." There will always be a need for certified Type 1 security devices.

The NSA/IAD is turning to commercial-off-the-shelf technologies in order to better serve customer demands. With the right implementation, these COTS products can be configured to provide strong protection of data as it transits devices and networks. Implementation of the CSfC initiative is supported by three basic pillars. CSfC solutions will be composed of publicly available commercial technology that uses open commercial standards. Each security function must be layered to provide at least two independent protective capabilities. And CSfC solutions will use Suite B algorithms for confidentiality and interoperability.

To be considered a solution within the CSfC initiative, the system or network must be composed entirely of widely available commercial technology and standards. This poses a significant shift in thought for the majority of NSA customers and integrators that are considering development of information technology systems. After all, the use of Type 1 GOTS is "rooted in a threat-model that has been around since the beginning of the Cold War (Ziring 2012)." It will take some time for vendors and integrators to adjust to the idea that commercial technology can be as secure as GOTS NSA-certified devices.

Planners from the NSA and the National Institute of Standards and Technology came together to establish the National Information Assurance Partnership to evaluate commercial technology.

To ensure that commercial products can meet NSA standards for security, NIAP uses certified laboratories to test products against stringent security profiles.

Once certified, these commercial products are placed on the Approved Products List to be considered for use by vendors and integrators in their systems under development. The whole NIAP certification process is designed to provide confidence in the ability of commercial devices to secure communications commensurate with NSA-certified GOTS products.

The second pillar supporting the CSfC initiative is the strategy of layered commercial devices. Layering is the concept of using several layers of the same security function to ensure that acceptable assurance levels for each function are met. A security function is a function that "transforms, filters, blocks, passes, monitors, or otherwise operates on data or transactions passing between two points in a system in order to support some security policy (McGraw and Roeper 2011)". Encryption is one example of a security function; its use conforms to various NSA, DoD, and Army policies to make data less likely to be exploited by the enemy if intercepted. As such, a layered solution using encryption would involve two or more devices that encrypt data at certain points as it travels the network.

It is important that any single layer must be adequate to protect the system or network. However, any single layer could be at risk for exploitation due to unintentional configuration errors. An additional independent layer would reduce the likelihood that vulnerabilities like these would expose the network or provide access to network content. In the example of a Secure Wireless Local Area Network, one layer of encryption would be an IPsec Virtual Private Network that establishes a secure connection between the user and the Enterprise. The other independent layer would encrypt data using the WiFi Protected Access encryption with Suite B algorithms. Each independent layer would have the necessary cryptographic strength to protect the data but would not share application components, libraries, or hardware. In other words, each layer is independent of the other and provides a measure of protection should the other layer fail.

Layering should not be confused with defense-in-depth which is a strategy that employs the use of several layers of different security functions to protect the system. An example of defense-in-depth would be "the use of a firewall, host-based security system, access control, and an intrusion prevention system (McGraw and Roeper 2011)". As a group they protect the network, but each device performs different security functions.

The last pillar supporting the CSfC initiative is assurance of confidentiality and interoperability through the use of Suite B algorithms.

Suite B is a class of algorithms used for encryption, key exchange, hashing, and digital signatures. They are based on universal commercial standards for application by military, government, industry, and foreign partners. Suite B algorithms include the Advanced Encryption Standard or AES, Elliptical Curve Diffie-Hellman Key Exchange, Secure Hash Algorithm, Digital Signature Algorithm, and RSA.

The key strength of each algorithm will determine the classification level, either Secret or Top Secret, at which these algorithms can be implemented.

For purposes of CSfC, Suite B algorithms can be paired with internet protocols such as IPsec, Transport Layer Security, S/MIME, and Secure Shell. Use of these algorithms within these protocols ensures that interoperability and confidentiality between all interested parties can be established and maintained. The NSA/IAD demonstrates how to properly employ CSfC solutions through delivery of a Capabilities Package. A Capabilities Package is a configuration guide and is unique to each class of technology (e.g. Campus SWLAN, Mobility, Multi-Site VPN, etc.) and is intended to accomplish four objectives (NSA 2012):

1. Provide a "Design to" package, not an exact wiring diagram for proposed solutions. System integrators will be responsible for ensuring their specific implementation reflects all the requirements defined within the Capability Package.

2. Provide assurance that a solution is designed, deployed, and capable of achieving a favorable accreditation decision for the protection of classified information. The risks have been determined by NSA to be acceptable for the protection of classified information using commercial components.

3. Continue to evolve through feedback provided to NSA.

4. Provide the necessary documentation, enable each stake holder to recognize design concerns, usage and environment constraints, necessary components, and assumed risk.

Integrators and vendors use the Capabilities Package to design, build, and deliver an NSA

approved solution that meets customer requirements. The Authorizing Official or Designated Approval Authority would use the Capabilities Package to understand how the customer requirements are being addressed through the CSfC process and ensure that those requirements are being followed.

The appropriate AO or DAA must ultimately assume risk for any CSfC implementation that falls within the boundaries of their authority. The AO or DAA can be confident that any CSfC solution is NSA approved as long as the integrator or vendor complies with all aspects of the Capabilities Package. Capability Packages will be updated frequently to identify the latest technology available and to provide updates to integrators and vendors as needed.

CSfC Benefits and Considerations

There are a number of benefits that CSfC provides. Any solution that is built using a CSfC Capabilities Package is releasable to our international partners. Since any CSfC solution is designed with commercial products, protocols, and encryption, it can be used in coalition networks or with industry partners. CSfC products are not Controlled Cryptographic Items and do not need to be accounted as such. This lightens the regulatory burden Army units face and allows for easier handoffs with rotating units.

There is also greater engagement with Industry to produce relevant and timely information systems to the warfighter. Commercial integrators and vendors are more likely to provide products that are cutting edge and more efficient. Also, the time it takes to get these solutions to the field can be decreased significantly. The CSfC improves responsiveness and flexibility to meet customer demands.

The CSfC process is continually being refined by the NSA and there are a few things that should be considered. The first is regulatory. Army Regulation 25-2 states, "With the exception of those systems approved by NSA and endorsed by HQDA CIO/G–6, at no time will U.S. classified national security information be protected…by a NIST/NIAP common criteria testing laboratory evaluated product (Army 2009)." As already mentioned, all products approved by the NSA for use in CSfC solutions are evaluated by NIAP using common criteria.

Army AOs and DAAs may look at this regulation and determine that any solution using CSfC is prohibited. However, the NSA considers any CSfC solution to be NSA approved as long as it complies with the criteria listed in the Capabilities Package. In order to eliminate any ambiguity, Army officials should consider updating this regulation to reflect the use of CSfC solutions. The Committee on National Security Systems is replacing older policies with the new CNSSP-11 that will allow for the use of layered commercial products, evaluated by NIAP, to protect classified information. Additionally, DOD Instruction 8500.1 is being updated to state that "Products that protect classified information must comply with CNSSP 11."

AR 25-2 also calls for a key management plan. The regulation states:

"Each NIST/NIAP-approved cryptographic system will have a key management plan that describes in detail all activities involved in the handling of cryptographic keying material for the system, including other related security parameters (such as IDs and passwords). The plan will describe accountability over the keying material over the entire life cycle of the system's keys from generation, storage, distribution, and entry into the system through use, deletion, and final destruction (Army 2009)."

The use of commercial equipment, protocols, and encryption may provide a unique challenge to manage keys in accordance with this regulation.

Life-cycle costs for maintenance and replacement of commercial devices may be greater in the long run than if a GOTS solution is used.

Given the current maturity of the CSfC initiative, the NSA has not fully captured these costs. Customers will be responsible for patching, updating, and for maintaining any service contracts needed to keep their CSfC solution compliant with the Capabilities Package and approved by the NSA. CSfC solutions may increase personnel costs by requiring additional administrators. Customers will have to be more vigilant in defending their networks.

To help mitigate some of these costs, the NSA will assist vendors and integrators by requiring CSfC solutions to be registered. NSA registration facilitates future communication with customers regarding incident reporting, CSfC alerts, Capability Package updates, and additional risk data as it becomes available. However, it is important that all costs be captured before any CSfC solution is considered. Finally, CSfC solutions may better suit the Army

at the network's edge by extending last-mile communications. Bringing the "network" to the squad is in line with the Army's Strategic Planning Guidance. As such, the capabilities provided by a CSfC solution at the edge may outweigh the implementation cost. Successful CSfC prototypes have already been demonstrated for SWLAN and Mobility. However, due to the nature of the network Core, CSfC may not be adequate to provide the necessary throughput and security required to satisfy DoD requirements.

Future of CSfC

Another NSA/IAD initiative is the Cryptographic High Value Product. While CSfC is a commercial initiative, CHVP is strictly for GOTS equipment. CHVP is designed to eliminate the CCI control and administrative burdens by removing NSA proprietary processes and algorithms in some existing Type 1 encryptors e.g. KG-250, while still maintaining the functionality of the device. It would be a natural fit to incorporate some CHVP products into a CSfC solution. The flexibility of a CSfC solution would be maintained, while increasing the overall security profile of the system, by including a Type 1 encryptor somewhere in the network architecture.

Summary

The NSA continues to develop and mature the CSfC process. This process is designed to provide customers with the flexibility they need to design, build, and implement classified information systems and networks while still satisfying security policies and requirements. The NSA supports the customer in this effort by providing a CSfC implementation strategy in the form of a Capabilities Package.

The Capabilities Package outlines the necessary configuration guidelines for layering commercial technology and for using Suite B algorithms and protocols. If implemented correctly, any CSfC solution will satisfy the customer's urgent demands for secure communications.

To learn more about CSfC and to view current Capability Packages, visit the NSA website at www. nsa.gov.

MAJ Paul Meaux is an FA24 serving as the Army Client Advocate for the Information Assurance Directorate of the National Security Agency.

ACRONYM QuickScan and Citations

AO – Authorizing Official
CCI – Controlled Cryptographic Item
CHVP – Cryptographic High Value Product
CNSS – Committee on National Security Systems
CNSSP - Committee on National Security Systems Policy
COTS – Commercial off the Shelf
CSfC – Commercial Solutions for Classified
DAA – Designated Approval Authority
DoD – Department of Defense
GOTS – Government off the Shelf
IAD – Information Assurance Directorate
NIAP – National Information Assurance Partnership

NIST – National Institute of Standards and Technology
NSA – National Security Agency
SWLAN – Secure Wireless Local Area Network
VPN – Virtual Private Network

Army Regulation 25-2. Information Assurance. Headquarters, Department of the Army. Washington, D.C., 2009.

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Tobyhanna overhauls Air Force training tool
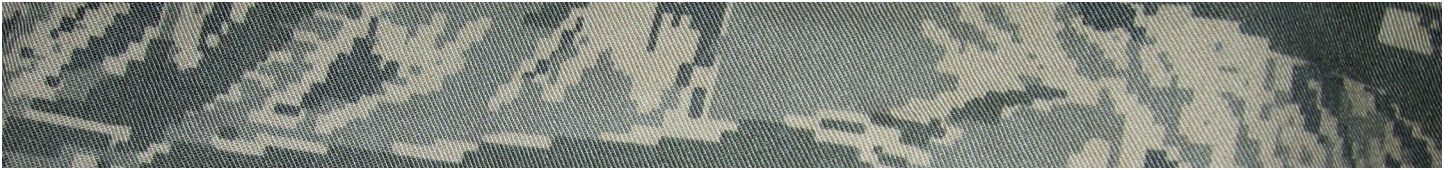
By Jacqueline Boucher

It was 20 degrees below zero when personnel fielded Tobyhanna Army Depot's first overhauled Unmanned Threat Emitter training system at Eielson Air Force Base, Alaska.

Overhaul work on the Air Force UMTE systems began in November 2011, with the first system being completed in February. Personnel are working on three more systems, each at different phases of the repair process, in the Tactical End Item Repair Facility.

The UMTE is an U.S. Air Force aircrew training system that is environmentally rugged, unmanned and remotely operable. It is capable of radiating threat signals that simulate surface-to-air missiles and anti-aircraft artillery radar, and can be airlifted to various training sites. There are 35 systems in the inventory, 16 of which reside on the Joint Pacific Alaska Range Complex. The JPARC is the world's largest instrumented air combat training range with over 67,000 square miles of airspace and is the venue for RED FLAG-Alaska.

The UMTE and other systems overhauled by Tobyhanna are an important part of providing realistic Electronic Warfare training to all branches of the U.S. military and our Allies, according to John Karish, range engineer assigned to Eielson's 353

(Photo by Steve Grzezdzinski)

Electronics mechanics Anthony Dennis (left) and Robert Slater conduct a system performance check on a Air Force Unmanned Threat Emitter training system after it was overhauled and reassembled. Site acceptance testing for the first overhaul was performed at a remote training range in the Alaska wilderness.

Combat Training Squadron.

Overhaul has two main components – electrical and mechanical. Electrical repairs include diagnosing equipment failures and replacing defective components. Mechanical repairs include full restoration to like-new condition. The repair process includes sandblasting, cleaning, priming and repainting of an asset.

Employees also remove all the system components and test and repair all internal wiring and cable harnesses.

"The overhauled system must not just transmit signals," Karish said. "The system must transmit very closely defined signals in order to provide aircrews a realistic EW environment." According to Frank Wanat, the support from a number of depot shops has been "outstanding." He explained that the new workload started with a repair cycle time of 365 days with the goal of decreasing it to 200 days. In addition, projected figures indicate the Air Force will cut their overhaul costs considerably by transitioning from the original equipment manufacturer to organic sustainment at Tobyhanna.

Teamwork is the key to the continuing success of this program, Wanat explained.

"If the work performed on this first system is any indication of what we can expect in the future, we'll be able to reach our goal in no time," he said, adding that the shops are working well together getting things through the process quickly and efficiently. Wanat is a logistics management specialist in the Production Management Directorate's Surveillance, Threat Emitter Branch.

Charles Bartleson, former Threat Simulation and Analysis Systems Branch chief, took the

(Photo by Sean Bovier)

Members of Team Tobyhanna worked in frigid temperatures at a remote location in the Alaska wilderness while completing the final phase of the first overhaul of the Air Force UMTE training system.

lead on this program until retiring, according to Joe Lynott, chief of the Intelligence, Surveillance and Reconnaissance Directorate's Range Threat Systems Division. He tasked two depot employees to become UMTE subject matter experts; they joined forces with Tobyhanna's engineering representatives to develop this new depot-level capability. Electronic Integrated Systems Mechanic Eduardo Estrada and Electronics Mechanic Robert Slater played a vital role in each phase of this program, Lynott said.

"Training received by the manufacturer to operate the system remotely was useful in performing the first sight acceptance test," Slater said. Depot employees have received

positive feedback from Air Force personnel supporting the fielding event.

SSG Derek McCarty, 353rd Combat Training Squadron quality assurance evaluator, remarked that Team Tobyhanna members were very knowledgeable. In addition, if they didn't know something, they looked it up and worked diligently to correct the issue, he added.

Personnel here faced a few challenges while working on the aircrew training system. It was necessary to design new test fixtures and test boxes used to check different components, plus deal with a software problem.

"Each radar system typically

has different test fixtures and test boxes," said Bill Moser, electronics engineer, Production Engineering Directorate's Surveillance/ Range Systems Engineering Branch. "It's been a learning experience working on the UMTE, and everyone stepped up to the challenge."

Software issues came to light near the end of the overhaul process. A testing device called the jammer emulator needed reprogramming so the UMTE would operate properly prior to final acceptance testing. Unable to acquire necessary software, through combined requests from the Special Program Office, Hill Air Force Base, Utah, and Tobyhanna, depot engineers resolved the problem by programming the software to meet customer requirements, according to Wanat.

Karish explained that the jammer emulator tests the Electronic Attack Receiver on the training system. It measures jamming signals employed by combat aircraft in defense against surface-to-air missiles being simulated by the UMTE.

"If the EAR doesn't work, we cannot use the UMTE during RED FLAG-Alaska exercises," said Karish. "There would be no way to determine if the aircrew responded correctly, therefore we couldn't include the jamming effects when calculating the outcome of the missile engagement."

The employees, who worked in Alaska's frigid temperatures to conduct the site acceptance tests, spoke highly of everyone who assisted with the final stage of the process. Air Force personnel received, delivered and set up the system at a remote location, miles from the installation prior to final testing.

"Everyone provided excellent support during the entire process," said Sean Bovier, electronics technician. "The system performed flawlessly and the Air Force was very happy with the results of our work."

The UMTE joins Tobyhanna's growing mission of radar support.

Tobyhanna Army Depot is the Defense Department's largest center for the repair, overhaul and fabrication of a wide variety of electronics systems and components, from tactical field radios to the ground terminals for the defense satellite communications network. Tobyhanna's missions support all branches of the Armed Forces.

About 4,500 personnel are employed at Tobyhanna, which is located in the Pocono Mountains of northeastern Pennsylvania. Tobyhanna Army Depot is part of the U.S. Army Communications-Electronics Command. Headquartered at Aberdeen Proving Ground, Md., the command's mission is to research, develop, acquire, field and sustain communications, command, control computer, intelligence, electronic warfare and sensors capabilities for the Armed Forces.

Jacqueline Boucher is a public affairs Specialist at Tobyhanna Army Depot where she serves as editor of the depot's newspaper, The Tobyhanna Reporter. She began her military career in the Air Force in 1982 and retired as a technical sergeant in 2004. She served on active duty in Alaska, California, Germany, New York, Texas, Georgia, Korea and Bahrain where she managed media, newspaper and community relations programs. She joined the Tobyhanna Public Affairs Office in 2005. Ms. Boucher has earned numerous command, Air Force and Army-level awards throughout her career, as well as several journalism and newspaper awards in the Army's annual journalism competition, the Keith L. Ware awards program.

Acronym QuickScan

EAR - Electronic Attack Receiver
EW - Electronic Warfare
JPARC - Joint Pacific Alaska Range Complex
UMTE - Unmanned Threat Emitter training system

COMBINING BFT AND UAS IN AFGHANISTAN

*By 1LT Derek Distenfield
and
CW2 Dwight Phaneuf*

This article explains how Task Force Commando; 10th Mountain Division utilized both human factors and emerging technology to better utilize Unmanned Aircraft Systems throughout the Paktika Province on the 2013 deployment to Afghanistan's RC- East.

Early in their deployment it was apparent to LTC Jason Bridges, Task Force Gladiator commander that communication between Route Clearance Platoons and UAS operators was insufficient. Despite having FM retrains capabilities on the aircraft which allows for extended FM communications, UAS operators and ground patrol leaders often couldn't communicate via FM due to atmospheric and mountainous terrain conditions. The need for communications redundancy
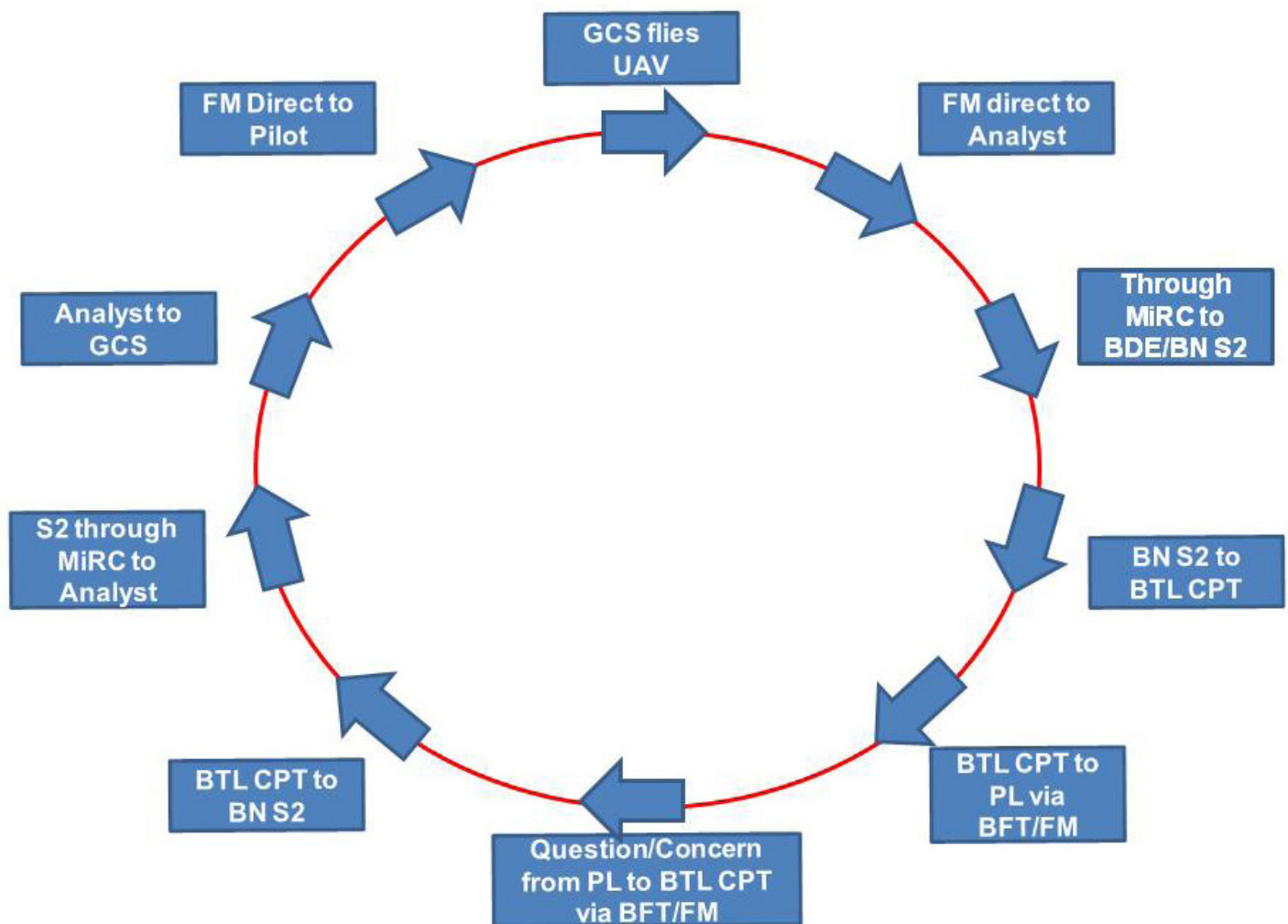
Figure 1-1 The Communication Cycle

that enabled UAS operators and ground patrol leaders direct linkages became a necessity.

During a particular RCP, UAS was conducting over-watch with their RQ-7B Shadow Aircraft and identified a manmade road block at a choke point along a critical route. The UAS team determined it was a possible ambush location that the RCP was approaching.

However, without effective communication and situational awareness with the patrol, the ability to directly provide early warning to the patrol became convoluted as information went to the BDE and BN S2's and TOCs, and then to the patrol via BFT. Thankfully, there wasn't an ambush at the location but the situation clearly showed a need for better aerial intelligence, surveillance, reconnaissance and ground patrol integration.

TF Gladiator supports the brigade's intelligence collection by utilizing Shadow aircraft to conduct ISR and supply full motion video in order to provide advance warning of perceived and confirmed enemy threats. Similar to most brigades, our S2 section manages the allocation of UAS via the battle space owner's request. The TTP at the time in question was for the UAS operator to contact the analyst inside his CP in order to have the analyst send a message over MiRC Chat that is typically monitored only by the brigade and battalion S2s and BN or BDE TOC personnel. (see figure 1-1 for the entire communication cycle).

The UAS team contacted the

Figure 1-2 Unmanned Aircraft Systems icon displays with the aviation symbol on Blue Force Tracker.

brigade S2 Shop in order have the information relayed that an RCP could be heading towards a possible ambush and inquire as to how they can assist. By the time information was relayed to the RCP from the BSO TOC, the convoy had already safely passed the chokepoint.

Although that particular roadblock did not target the patrol, TF Gladiator understood that leaders on the ground must maintain near instantaneous communications and have the ability to provide requests to UAS similar to communications with attack helicopters providing coverage of combat patrols.

1LT Derek Distenfield, TF Gladiator S6 and CW2 Dwight Phaneuf, UAS platoon leader conducted a "deep dive" for TF Gladiator and identified two aspects to increase communication between the UAS and Soldiers on the ground:

BFT and Radio Communications utilization.

Enhanced TTPs and Partnerships.

Blue Force Tracker has become the Army standard for commanders at all levels to maintain situational awareness of the battlefield. With the right equipment and technical instructions it can be useful for UAS operations as well.

TF Gladiator was able to acquire the necessary modified TOC kit laptop (AAI part number is 38900-42050-10) that fits inside the Ground Control Station that control the Shadow aircraft in order to allow for the displaying of the UAS icon on the BFT (see figure 1-2). This allows for convoys and TOC commanders to be aware of the exact location of the shadow aircraft. TF Gladiators are the only unit in Afghanistan displaying UAS on the BFT.

Because the GCS has been pre-wired for BFT the laptop was easy to install once delivered via the PM. However, without an issued TM, published instructions or any other unit using the equipment it took a few days of trial an error and discovery learning to get the system fully mission capable. (Annex 1 is the user manual. Annex 2 is the checklist of TF Gladiator proposed changes to installing the system).

UAS teams can increase their situational awareness using BFT to identify exactly where the vehicle patrols are located on the ground. UAS operators are no longer seeing just a grid location to a patrol, but are now seeing the location on a BFT map. Another important function BFT provides is two way text messaging. TF Gladiators are currently the only UAS Operators in theater that have direct communication with the patrols on the ground via BFT messaging, allowing for more effective operations throughout Paktika Province.

The Distributed Tactical Communication System Radio is a push to talk Satellite Radio that can be effectively utilized in the mountainous terrain of eastern Afghanistan. In addition to long range communication, the DTCS radio has an icon that is displayed on the BFT (see figure 1-3. This is especially valuable for vehicle patrols and UAS operators alike.

When our dismounted route clearance teams utilize DTCS Radios, mounted leaders and UAS operators know exactly where the Soldiers are located. Leaders can now request and direct UAS coverage for specific situations and dismounted operations to support both mounted and dismounted route clearance elements. Additionally, TF Gladiator UAS operators can easily locate the DTCS icon and fly directly over head or in the vicinity of a location to best support the combat patrols.

TF Gladiator received the Combat Repay Program system prior to deployment and was able to utilize it during our Division Field Exercise, (Mountain Peak), at Fort Drum. The FM relay system works by placing an AN/PRC 152 Harris Radio inside the wing of the aircraft (see figure 1-5). This allows Soldiers on the ground to communicate directly to the aircraft which then sends the FM signal t o the UAS Ground Control Station.

Harris Radios are not, unfortunately, an Army program of record which prohibits training and resources from being allocated to the Soldiers that use them. Additionally, TMs are not always readily available either in theater or garrison. Early in the deployment this caused some difficulties for TF Gladiators utilizing the asset. Soldiers and leaders were not aware that the radio relay frequency had to have at least 20 percent separation. This was easily solved by providing the UAS platoon a frequency that was around 58.00 and was much higher than the maneuver elements frequency that operated in the 38.00 range.

UAS Operators and Soldiers on the ground were able to communicate directly via the CRP relay package up to 50 miles away when the UAS was flying over head, a significant improvement to the less than 10 KM range without CRP.

Once TF Gladiator developed two methods for UAS and Soldiers on the ground to communicate it was only natural to look at how and when information should be delivered. The best technology can only be effective if Soldiers on the ground are the beneficiaries.

Our TF stresses a two pronged approach that enables both the Soldiers on the ground and the Brigade's ISR efforts. This approach calls for UAS Soldiers to simultaneously report PIRs directly to Brigade and to the Soldiers on the ground ensuring leaders have the information they need to make successful decisions (see figure 1-6).

This approach requires direct interaction between UAS Operators and maneuver Soldiers. Conversations and sync sessions were facilitated
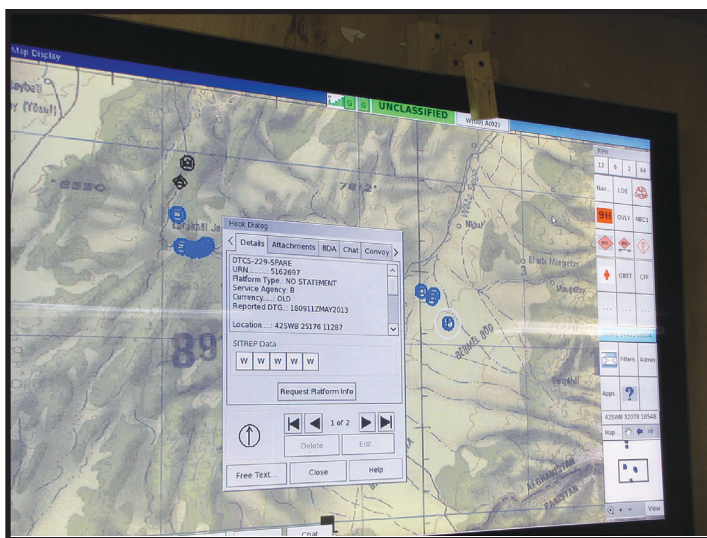
Figure 1-3 Distributed Tactical Communication System radio displays as the Infantry/machine gunner icon on Blue Force Tracker.

Figure 1-5 AN/PRC 152 Harris Radio inside the wing of the aircraft.

on BFT advising of the situation which enabled additional effective rounds to be fired.

Supported Airspace Control Authority, UAS operator used BFT to confirm an unidentified aircraft's position and maneuver above it to avoid and confirm it was a "friendly."

Deconfliction of airspace with JTAC using enhanced communication via CRP and/or BFT graphical showing the Shadows position allowed for UAS to stay on-station during CAS missions.

While monitoring their FM/CRP Radio during a mission, UAS heard that a PTDS Aerostat had broken loose. Exercising initiative, the UAS operator immediately followed the Aerostat communicating with the Soldiers on the ground facilitating an ANA recovery of the sensitive asset.

The DTCS icon on BFT allows UAS operators to quickly indentify where dismounted Soldiers are located allowing for better ISR coverage and enemy deterrence.

by 1LT Distenfield to ensure that UAS Soldiers understood the maneuver units PIRs and other information. It is equally important that ground patrols understand the capabilities and limitations of the aircraft. Partnership was further enhanced when UAS Soldiers attended an RCP rock drill followed by active participation in a ground route clearance patrol giving an important perspective to Soldiers that would typically not leave the FOB.

Results

Since TF Gladiator has instituted enhanced communication platforms and procedures, patrols have been provided enhanced ISR coverage. Route clearance patrols are advised well in advance prior to reaching potential IED or ambush locations, allowing for enhanced situational awareness and insurgent defeat. The information dissemination is streamlined and provides enough time for a patrol leader to take appropriate action.

Other results that have had a significant impact on the mission include the following:

UAS enabled real time mortar registration. During one mission UAS operators were able to communicate with the mortar team that an ineffective round had been fired. UAS sent a text message

Recommendations

Based on TF Gladiator's results, it is recommended that all UAS Platoons are provided a BFT platform in order to better communicate with Soldiers on the ground providing enhanced service and relevance to warfighters on the ground. Specific recommendations include:

The BFT designed to go inside the UAS shelter came with no instruction manual and training. If it became a program of record and an MTOE item, it could be effectively utilized Army wide.

DTCS Radios that produce an icon with their geographic location on BFT has been effective. Radios that produce BFT icons should continue to be fielded both in theater and in garrison as an MTOE item in order to be utilized for operations involving dismounts and UAS.

1LT Derek Distenfield started his Army Career September of 2006 as a private serving as an Air Traffic Controller with the 1/58 Airfield Operation Battalion stationed at Fort Rucker, Ala. Following completion of Officer Candidate School, in July of 2008 1LT Distenfield was commissioned as a Signal Officer. He has served in Kuwait, Iraq and Afghanistan twice. He currently serves as TF Gladiator S6 in Paktika Province, Afghanistan.

CW2 Dwight Phaneuf started his Army Career May
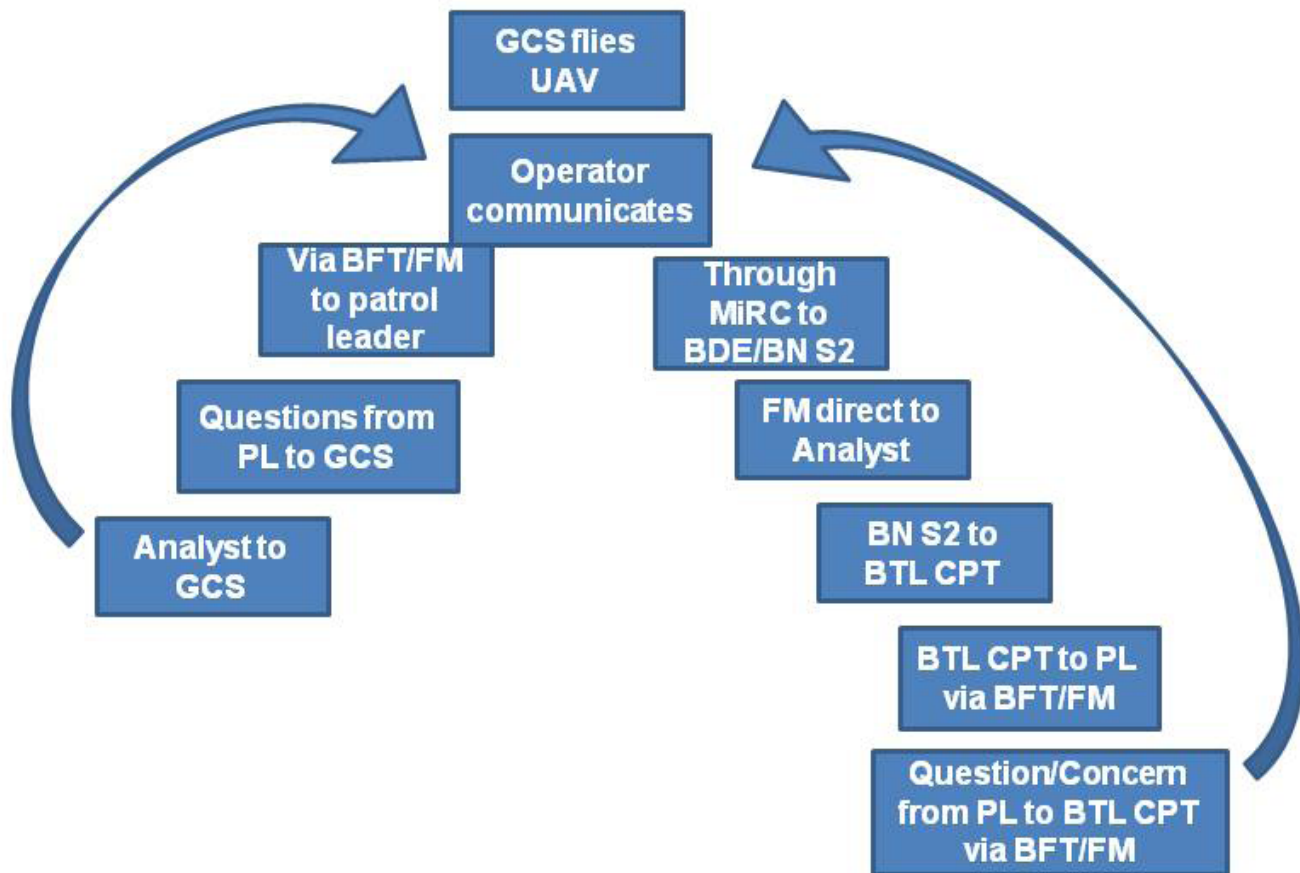
Figure 1-6 Providing Soldiers and the brigade the information needed to make operations effective.

1990 as a private serving UH-1 crew chief in the U.S. Army Reserves. He continued his service for the past 20 years from private to sergeant first class to chief warrant officer two in three aviation MOS's. His duties have taken him around the world with assignments in Germany, Japan, Alaska and multiple state side locations. His deployments to Bosnia, Kuwait, and Iraq exposed him to the many missions the Army utilizes to maintain peace worldwide. He currently serves as UAS platoon leader for TF Gladiator in Paktika Province, Afghanistan.

ACRONYM QuickScan

BDE - Brigade
BFT - Blue Force Tracker
BN - Battalion
BSO - Battle Space Owner
CRP - Crew Relay Package
DTCS - Distributed Tactical Communication System
EW - Electronic Warfare
FOB - Forward Operating Base
FM - Frequency Modulation
GCS - Ground Control Station

MIRC Chat - Military Intelligence Readiness Command Chat
MOS - Military Occupation Specialty
PTDS - Persistent Threat Detection System
RCP - Route Clearance Platoon
TF - Task Force
TM - Technical Manual
TOC - Tactical Operations Center
TTP - Tactics Techniques and Procedures
UAS - Unmanned Aircraft Systems

MLOS improvement on the front line

By CPT Christopher J. Kittle

Currently serving as the S6 for the 3rd Squadron, 7th U.S. Cavalry, deployed to Afghanistan in support of Operation Enduring Freedom 12-13, the ability to communicate over long distances is my primary focus.

The mountainous terrain, developing infrastructure, and reduction of U.S. and Coalition Forces have placed greater demands on communicators to extend the network and support commanders with distributed or decentralized mission command.

The means available to execute mission command are constantly evolving and being redefined, often heavily influenced by the introduction of Commercial-Off-the-Shelf equipment to fulfill specific needs.

With a wide range of communication systems being utilized throughout the Combined Joint Operating Area-Afghanistan, the question remained: given the resources available, how can communications at the Troop level be improved within 3-7 CAV?

More specifically, how can the redundancy for data and voice services be improved? The answer was found using the Microwave Line of Sight transmission system that would eventually become the gateway to strategic level communications resources at remote Combat Outposts throughout Regional Command-North.

3-7 CAV deployed from Fort Stewart, Ga., in late August 2012 to RC-North. Prior to deploying, the unit conducted its pre-rotational training at the Joint Readiness Training Center, Fort Polk, La.

One of the primary focii of the training at JRTC was ensuring the capability to execute decentralized missions. This meant that troops were not centrally located at one FOB, but geographically spread throughout the Area of Operations at several smaller COPs. Consequently, this increased the role of communications Soldiers at both the Squadron and Troop level. While at JRTC, the communications Soldiers were able to train on the Command Post Node and gained some functional experience with operating the SIPR/NIPR Access Point system. Excluding the basic SNAP introduction, the training at JRTC was executed with organic communications equipment. The training the communications Soldiers did receive on the SNAPs proved to be very important as the Squadron would be spread throughout three provinces in RC-North.

Once 3-7 CAV deployed to RC-North, the size of the AO the Squadron encompassed proved to be a key factor in executing the mission. Digital connectivity, broken down into voice and data, is necessary for many of the day-to-day operations units execute. Thus, digital connectivity can become a crux for success for everything ranging from large scale tactical operations to routine logistical support.

At the beginning of the deployment, the Troop's primary source of digital connectivity was the SNAP. The SNAP is a very common communications system in use throughout Afghanistan for smaller and more remote elements. The SNAP also operates on the "tactical network" which provides the necessary connectivity but is generally not as robust as that of the higher echelon "strategic" networks.

It is a satellite-based system that is very easily affected by the weather. While the system was able to meet the basic needs of the Troops to execute their mission, the system provided little redundancy and service interruptions, for a variety of reasons, were fairly common.

As many other units have experienced, even while operating the SNAP at its optimal capabilities, the limitations were clear. Because of the limits of the SNAPs the benefits of a transmission system such as the MLOS became increasingly apparent.

Through the first several months of 2012, the MLOS network continued to expand

throughout Afghanistan and, more importantly, into locations throughout RC-North. This happened to coincide with the arrival of 3-7 CAV to RC-North in late August of 2012. Thus, by the time 3-7 CAV arrived in theater the MLOS network was fully functional throughout RC-North. The MLOS was not initially installed for the purpose of directly supporting the local elements at the COP with end users for voice and data services.

While the MLOS was fulfilling its intended purpose, the potential of this system was not being realized. The MLOS also created another unique situation where a strategic level transmission system was located at remote COPs that were accustomed to only tactical level communications. Another key factor with the MLOS was that the system did not have additional higher echelon communications support personnel and equipment physically co-located with it, such as a Technical Control Facility or a Network Operations Center. As most strategic level transmission systems are co-located with personnel who support the system, this would present a significant obstacle in providing additional services to the Troops. Overall, this created a unique situation where a fully functional strategic level transmission system was being underutilized at locations which could benefit from improved data and voice services.

As is common with most strategic level systems, the MLOS and the network it accesses provided much more than what the Troops were accustomed to using. The MLOS is a terrestrial based transmission system. In some respects, the MLOS is similar to the tropospheric scatter systems already in use by the Army. The MLOS system was implemented in Afghanistan during the previous three years, forming a 'ring' of connectivity around the country.

The system currently in use is contracted through the Afghan Wireless Communications Company. The capabilities of the MLOS separates itself from the SNAP systems in several ways: its available bandwidth across the three enclaves, NIPR, SIPR, and CENTRIXS, out-performs a SNAP; it can significantly increase the available number of users without saturating the bandwidth; it is a terrestrial-based system that does not require connecting with a satellite and the associated impacts of weather; and the additional higher echelon support that the systems receives, even if remotely, increases the potential of the system.

In addition to these attributes, the MLOS provides a different method to transmit the signal which gives the Troops two distinct and redundant systems for digital voice and data. Once the capabilities of the MLOS were fully realized the process of establishing services began.

The two primary elements that continue to assist and maintain support for the MLOS system are the Regional Network Operations Control Center-North, and the theater signal support element, the Joint NETOPs Control Center-Afghanistan. JNCC-A is a Task Force Signal asset charged with providing Mission Command to Echelon Above Division Signal forces and network operations in order to provide communications networks, information systems services support and information assurance for U.S. operational forces in the CJOA-A. (http://jnccportal/SitePages/Home.aspx)

In addition to the network control centers, the Direct Signal Support Team of the 580th Signal Company, located at Camp Marmal in RC-North, provided support with programming and making workstations fully mission capable. Most elements of signal support are maintained at the regional NETOPs center, for both strategic and tactical, but with strategic level resources, more support is needed from the theater level.

The ability of the squadron S6 to coordinate higher echelon signal support and, on occasion, enable the RNCC-N and JNCC-A direct coordination with a communications Soldier at the Troop level, allowed this project to progress and ultimately succeed in supporting the end user. With range of the signal support assets available in RC-North and throughout Afghanistan one problem still remained: how can a strategic level transmission system, the MLOS, support users where higher level signal support was not physically co-located with the Troops?

The ability to operate the SNAPs with just one or two Soldiers is the primary advantage of the SNAP for operation at the Troop level.

Conversely, for basic operation the MLOS is also able to be operated by one or two Soldiers at a COP, to include tasks such as connecting users to switches. The physical shelter is maintained by AWCC, but the components that provide network access are controlled by U.S. forces. The combination of the two, the shelter and the components, is what makes the MLOS such an excellent system for remote locations. The communication Soldiers for each COP were tasked with physically installing the new switches and encryption devices into the existing router.

This is significant because the access to all three networks, NIPR, SIPR and CENTRIXS, required the network engineering to be executed after the equipment was already in place. All the tasks necessary to establish the MLOS system were completed by the Soldiers on the ground working remotely with the RNCC-N and the DSST. This included everything from establishing trunks, programming switches and routers, developing IP schemes for voice and data services, and the many other system processes that are required in order to support a modern Command Post. The level of responsibility and complexity of this project fell directly on the shoulders of the 25B's located at the COPs.

As the project progressed, unforeseen issues often arose which could not be remedied remotely. This required the Soldiers at the COPs to find a solution through local trouble shooting with remote assistance from the technicians of the DSST or RNCC-N.

One competent technician could positively affect three different locations spread throughout three mountainous provinces in just a matter of minutes. Conversely, after the hardware was installed, there was no "how-to guide" or "smart book" for Soldiers and technicians to reference while creating the digital infrastructure required to bring an MLOS system on-line.

The two communications Soldiers at each Troop, one 25U and one 25B, did not have the opportunity to experience working on the MLOS (like they did the SNAPs) prior to deploying. While some of the equipment was familiar to them, not all switches are the same when a Soldier is moving between maintaining the tactical network connections and establishing a new strategic network to the end users. Overall, the project of establishing the MLOS at the Troops showed how higher echelon signal support can directly impact users at the Troop level operating at remote locations throughout Afghanistan.

Improving the communication resources available to Troop commanders allows them to spend more time focusing on their mission and not questioning whether their communications are adequate to complete the mission.

The MLOS significantly increased bandwidth and the redundancy by providing two separate transmissions systems for secure voice and data.

The ability of multiple entities to work together during the process of establishing and maintaining services at the COPs shows how knowledgeable technicians and motivated Signal Soldiers can greatly improve tactical communications down to the Troop level.

CPT Christopher J. Kittle is currently serving as the S6 OIC for the 3rd Squadron, 7th U.S. Cavalry. He arrived at Fort Stewart, Ga. in March 2012. He deployed with the 3-7 CAV in August 2012 to RC-North and is nearing the completion of his deployment in May 2013. CPT Kittle is a graduate of the Signal Captain's Career Course at Fort Gordon, Ga. Prior to the SCCC, he completed a branch detail in the Infantry, which included being assigned to the 1-501st Airborne, 4th BDE, 25 ID at Fort Richardson, Ark. While in Alaska he served as a Heavy Weapons Platoon Leader during OEF 09/10, and later as a Mortar Platoon Leader back at Fort Richardson. He has also completed the Infantry Officer Basic Course, the Basic Airborne Course, the Infantry Mortar Leaders Course, and Ranger School.

Acronym QuickScan

AO - Area of Operations
AWCC - Afghan Wireless Communications Company
CF - U.S. and Coalition Forces
CJOA-A - Combined Joint Operating Area-Afghanistan
COP - Combat Outpost
COTS - Commercial-Off-The-Shelf
CPN - Command Post Node

DSST - Direct Signal Support Team
JNCC-A - Joint NETOPs Control Center-Afghanistan
JRTC - Joint Readiness Training Center
MLOS - Microwave Line of Sight
NETOPs - Network Operations
NOC - Network Operations Center

RC-North - Regional Command - North
RNCC-N - Regional Network Operations Control Center-North
SNAP - SIPR/NIPR Access Point
TCF - Technical Control Facility
TROPO - tropospheric scatter systems
3-7 CAV - 3rd Squadron, 7th U.S. Cavalry

LTG Robert E. Gray Honored

On May 2, 2013, the 5th Signal Command officially named the Cyber Center Europe building on Clay Kaserne the Gray Center in honor of LTG Robert E. Gray.

LTG Gray was a distinguished Signal officer, leader and mentor who was also the former deputy commanding general of U.S. Army Europe.

GEN Dennis L. Via, commanding general of Army Materiel Command, was the guest speaker and accompanied BG Bruce T. Crawford and Mrs. Annie Gray, LTG Gray's widow in the unveiling of the building's sign.

The Gray Center is currently under construction and is scheduled to be completed in the summer of 2014.

Photo by SSG Christopher Adell

A Joint Service Color Guard was a part of the festivities as the Signal Regiment continued to demonstrate its universal span with representatives from all branches of military services training together and celebrating the camaraderie of the Profession of Arms at the 153rd Signal Regimental Ball.

153rd ANNUAL SIGNAL BALL
SEMAPHORES TO SATELLITES
GLOBAL PROFESSIONALS **GUARDIANS OF THE GRID**

ARMY COMMUNICATOR